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SUB-REGIONAL SPEECH VARIATIONS IN VOCABULARY, GRAMMAR, AND PRONUNCIATION

Cooperative Research Project No. 3046

Final Report

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1967

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U.S. Department of Health, Education, and Welfare.

PREFACE

I am indebted to more persons than I can possibly name in this space. I have acknowledged on the cover sheet my obligation to the Office of Education, U.S. Department of Health, Education and Welfare. To that I should like to add my thanks to:

Miss Thelma Goodwin, Troy, Alabama, for conducting many of the tape recorded interviews in Alabama.

Professors Sally Y. Sedelow, University of North Carolina, and James M. Brown, Southern Illinois University, for helpful discussions of the computer problems.

Data Processing and Computing Center, Southern Illinois University, Edwardsville, for support of the project. Mr. Charles L. Finke of that center deserves special thanks for devising the basic programs and for overseeing the many steps of production.

Professors Lyle V. Jones, University of North Carolina, and Joseph M. Wepman, University of Chicago, as well as Language Research Associates, for permission to make electronic copies of selected data in their copyrighted A Spoken Word Count (1966).

English Faculty, Humanities Division, and Office of Research and Projects, Southern Illinois University, for administrative and financial support, and for sufficient released time to enable me to conduct this research. The Stenographic Pool, Humanities Division, typed the final text of the report.

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1. Problem

The computer based problem studied here is an analysis of elements of English vocabulary, pronunciation, and sentence structure found in the speech of a sub-region. The region in this instance is Alabama, east Tennessee, north-west Georgia, and north-east Mississippi. The source of evidence is a body of American English speech contained in tape recorded responses of 33 native speakers from counties in that area. (Map 1) After these tapes had been transcribed and the text had been punched for computer processing, it was possible to examine the geographic occurrences of portions of the lexicon and to compare these occurrences with similar compilations of pronunciational and syntactical evidence. The computer has served in an impersonal way to assemble and compare quantities of detail within a reasonable time.

2. Hypotheses and Observations

Because of its operational convenience one untested hypothesis has been accepted: it is that language has system.[1]

These follow from it: (1) There are identifiable lexical, phonological, and syntactical subsystems. (2) The subsystems can be found in samples taken from a larger body of evidence. (3) The subsystems have similar and perhaps identical geographic distributions within this subregion.

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[1] Of course, this hypothesis appeals to common sense and has wide acceptance in linguistic studies. Since this is a subregional study, we see no convenient way to test a hypothesis about the total system when only local evidence is available.

The first objective of the study is to use computers to produce localized listings. In other words, the computer reports the presence of particular items at specific places so that in turn we can answer these questions:

1. What elements in the lexical and phonological systems have counterparts in the subregional systems reported for the Atlantic States?

2. What distributional relation do other items of lexical and phonological evidence have to those identified above?

3. What elements of a grammatical-syntactical subsystem can be identified by computer techniques?

4. For the elements so identified, what is their relation to the occurrence of lexical and phonological items?

Note particularly the hypothesis that subregional American English has a common set of uniformities in the distribution of lexicon, phonology, and syntax. This may seem to be a pseudo-hypothesis, set up simply to be knocked down. Our knowledge of vocabulary in the counties of Alabama and Tennessee now under study provides examples that regional differences do appear in word choice. At the same time, the present inquiry may show that such differences are part of the larger linguistic systems and as such deserve less emphasis than has been given them.

3. Related Research

This report is indebted to investigations in the regional characteristics of American English, in grammatical-syntactical features, and in computer based linguistics.

The first, regional characteristics of lexicon, is illustrated in Kurath's study of data collected for the proposed Linguistic Atlas of the United States and Canada. His Word Geography (1949) maps the occurrence of many regional words in the Atlantic states and demonstrates from their distributions the concept that American English has three major dialect areas, Northern, Midland, and Southern. The westward advance of these three dialects has been studied; for the present inquiry Atwood (1962), Allen (1958), and Markwardt (1957) set limits beyond which certain distinctive words are not commonly reported; and Wood (1963), using a different method of gathering data, mapped the occurrence of Northern, Midland and Southern words in eight states of the interior South. (Map 2)

The second sort are investigations of the pronunciation of American English. The phonetic-phonemic statements of immediate importance are those in Kurath-McDavid (1961).[1] The choice of this analysis in preference to other studies of the pronunciations of American English is governed by a specific and systematic display of local vowel and diphthong sounds and by the identity of sources of data, the Linguistic Atlas worksheets from which the Word Geography derived. Thus particular words which Kurath and McDavid used to illustrate the pronunciation of vowels and diphthongs were chosen as a part of a search list for transcribed words in our investigation; the scheme of presentation is essentially the same; the details of analysis differ -- a point to be discussed later.

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[1] This choice involves rejection of part of the long dominant Trager-Smith concepts advanced in An Outline of English Structure (Washington, D.C.: American Council of Learned Societies, 1957). Since phonemic problems do not enter grammatical analysis in this study, we mention this simply as a matter of record. Philip Lieberman, Intonation, Perception, and Language (1967) appeared too late to be used in our study.

Procedures for eliciting words or sentences vary. Kurath and others using the Linguistic Atlas techniques depend on trained interviewers who select persons within a county, use a restricted questionnaire to obtain spoken responses, and transcribe those responses in a finely graded phonetic alphabet. Wood in his first study of regional vocabulary in Alabama, Tennessee, and adjacent states used a printed questionnaire. These persons, selected county by county, were asked to encircle words they commonly used in a list based on the regional vocabularies being sought for the Linguistic Atlas.

Each procedure can bring an element of bias to the information obtained. To overcome various sorts of bias and to produce records that could be truly compared both within the same language and across languages, Sapon prepared a pictorial interview manual; Wood augmented this manual by introducing numbered pictures which he believed would increase responses that showed regional linguistic features.[2] This revised manual stimulated the responses for our study reported here.

The third is in the development and application of grammatical theory. English grammar and syntax have remained essentially unchanged over the past hundred years; statements of that grammar, however, have undergone revision at least twice during the twentieth century. At the beginning of the century, classroom grammars of English reflected prescriptive concepts derived from instruction in Latin grammar. Traditional scholarly grammars, historical in their orientation, used the same technical vocabulary to describe parts of speech and sentence elements and to develop refinements in the analysis of printed English.[3] A significant break with these traditional procedures, called "descriptive linguistics," shifted its emphasis from written to spoken language leading to the notion that each language is unique, a system to be examined by and for itself. The rules of word and sentence formation, of grammar and syntax are to be derived from a direct observation of the way sounds are thought to contrast and unite so that words are built from a limited number of spoken parts, and sentences are identified by rising and falling patterns of intonation.[4] A more recent approach to grammatical problems is called "generative-transformational linguistics." It has sought to devise theories by which all and only grammatical sentences of a given language can be generated. Its procedures have been extended to phonology, but the main emphasis is still on sentence organization. In the process of developing this linguistic theory, some of its formulators have dismissed the work of structuralist grammarians as "trivial."[5]

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[2] Stanley M. Sapon, A Pictorial Linguistic Interview Manual (1957), augmented by Gordon R. Wood, 1959. Sapon provided 155 numbered pictures. The person interviewed was told to give the number and to name the objects in the first 135 pictures, to give two or three sentence descriptions of the animal life depicted in the next 12, and to describe in detail the activities shown in the last 8, hazarding a guess about their causes, effects, and the like. Wood added 39 new pictures.

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[3] An American contribution to the development of scholarly traditional grammars is George O. Curme, A Grammar of the English Language (1935), 2 vols. Prescriptive statements about English grammar and the traditional school method of grammatical analysis are illustrated in Edwin C. Woolley, Handbook of Composition (1908).

[4] It is customary to trace "descriptive linguistics" to the influence of Leonard Bloomfield. His Language (1933) will serve as a convenient point of origin for statements of that procedure. After 1950 school grammars began to show influences of structuralist thinking. Among these one would include Charles C. Fries, The Structure of English: An Introduction to the Construction of English Sentences (1952).

The preceding paragraph is simply a note on selected grammatical concepts which have been presented during the past three quarters of a century. Each concept has undergone modifications; furthermore each has been both indebted to and countered by other descriptive and analytical methods. Even so firmly stated a set of procedures as those in _Syntactic Structures_ is being modified as is shown in the same author's _Aspects of the Theory of Syntax_ (1965).[6] These theories have had an impact upon two studies which are basic here: In actual analysis, we used concepts of syntactic relationships in Stolz (1964) and the grammatical categories assigned to selected groups of words listed in Jones and Wepman (1966).[7] The analytical tools we selected, then, are ones which derive from interpretations of structural _and_ transformational linguistics.

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[5] The book commonly cited as the starting point for discussions of "generative-transformational linguistics" is Noam A. Chomsky, _Syntactic Structures_, Janua Linguarum, Series Minor No. 4 ('s-Gravenhage: Mouton, 1957).

[6] See P.H. Matthews' review, _Journal of Linguistics_ 3, 1 (April 1967), 119-152. For surveys of grammatical concepts, see Francis P. Dinneen, _An Introduction to General Linguistics_ (1967), and H.A. Gleason, Jr., _Linguistics and the English Language_ (1963).

[7] Stolz' contribution is of this sort: "The constraint of individual word-types . . . decreases sharply as the distance

4. Procedures

4.1. Preliminary Work

As has already been stated, the tape record for this study was made in 1959 and 60. From the entire body of recordings, the responses of 33 persons were selected for close investigation.[8] The speakers range in age from 20 to 80; they are of both sexes; their education ranges from early grades up through university graduate study. By virtue of their birth and upbringing the speakers adequately represent native adult speech in their respective counties. (Table 1)

A typescript was made of each selected tape record. All recognizable words were spelled conventionally, with spacing between words; fused expressions like *gonna* were expanded to *going to*; contracted forms of verbs and possessive forms of nouns and pronouns were retained and were punctuated conventionally -- *don't* and *boys'*.

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from predictor to the predicted if farther than three words to the left or two words to the right from the predicted word." (p. 130)

The two works differ in these particulars:

	No. of Thematic Apperception Test Pictures Used	No. of Persons Interviewed	Data	No. of Grammar Categories
Stolz	5	32 (college students roughly same age)	Spoken & Written	18
Jones & Wepman	20	54 (all levels of education all ages)	Spoken	13

[8] Certain tapes were rejected because the recording itself was poor, because the informant talked at random instead of following the pictures of the manual, or because the informant had lived in so many places that the speech pattern could not be considered representative of any county.

Periods and other marks of punctuation were inserted according to the typist's training; these marks (apostrophe, comma, period, and semicolon) were removed or altered when the data cards were punched since, punctuation was not viewed as being a reflection of any speaker's intonation patterns. _Uh_, _ah_ and the like were omitted from the typescript;[9] interruptions or other comments by the interviewer were noted in code but not transcribed.

While the transcriptions were being made, details of card punching and of the computer programs were formulated. Some details were modified during the test runs of the programs, but in general no significant departures were made from these original plans. The computer would be directed to parts of the lexicon (LEX program), of the sentence design (SYN program) and of the pronunciation (FON program). From these three programs of machine analyses would emerge tabulations which we hoped could be compared further. (Appendix C, Flow Chart).

The punching design that emerged in 1966 has two functions, first to provide a text for lexical and syntactical analysis, and second to provide a separate text for phonological comparisons. From the beginning it was obvious that machine requirements would cause us to separate speech (phonology) from speech (lexicon) and

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9. Maclay and Osgood, (1959), show that these hesitations occur in patterns. Inclusion would have complicated the analytical procedures unduly. At the point of their greatest utility, i.e. in the syntactical analysis, they would have had to be removed by computer since they do not fall into grammatical categories in Jones-Wepman (1966).

that the comments about grammar and syntax would not have a large phonological component if any. In the present stage of computer technology no solution to this difficulty has come to our attention. All things considered, it seemed productive to link vocabulary and syntax rather than phonology and syntax.[10]

For interpreting the computer format of lexical texts which accompany this study, it is necessary to know these conventions: The left hand entry designates a general geographic area and a specific county. A01 and B24 mean area A, county 1 and area B, county 24. The next number identifies the person in terms of that county: A081 and A082 are two different persons in county 8. Next is the age and education code, expressed as a letter.[11] Next is the printed representation of the spoken sentence, four words to a card; at the extreme right is the number of each card in its sequence. (Appendix B) (Map 1)

In the computer texts are words and special symbols used as comments or machine instructions. A single period, added solely for the convenience of readers, is treated as a machine word. Other special signals are LEX, SYN, and FON which identify the program being carried out. HINTW and HINTQ show that an interviewer interrupted either to supply a desired word or to ask a question which would lead to that word. OMIS is a comment that the informant's response does not begin with the name of a number. A slash replaces an apostrophe in contracted forms of the verb and an asterisk replaces the apostrophe in noun possessives: CAN/T and BOY*S. The double period . . and the entry 1 SEE are instructions to the machine. (Appendix C)

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[10] P. Stockwell, (1960), provides a method of notation which shows intonation patterns numerically. The method, however, did not lend itself readily to the requirements of coding and comparison which are basic to our study.

[11] Age and education could be coded separately. Since age and education are intertwined, we chose to code them singly; if in the course of the search evidence had suggested that age or education needed to be treated by itself, then simple sorting procedures could be ordered. In the printed listings, the age-education code provides a visual means of testing any lexical problem that arise.

4.2. Current Study

Data forms were prepared from an edited version of the original typescript; in turn these were punched and listed. The resulting listed text was edited at least once by comparing it against the original tape recording. After corrections had been made, the cards were put into the LEX program since this program searched each card fully, checked the coding and the column punching, and noted errors. When errors appeared, the faulty cards were corrected and the process of analysis began again.

The final output selected for this study is a running text of 15,600 words. (Table 2) From the total text, lexical words were extracted to serve as the base for the distributional analysis of their occurrence in the counties; further the chosen lexical word became the starting point for analyses of stressed vowels and diphthongs, and the center for collection and analysis of the grammar and syntax of words both to the right and left of it. Since the informative words that can be most readily compared by computer are generally nouns when persons look at the same picture, our analysis is noun centered. No harm comes from this choice so long as we realize that other kinds of centering remain unexplored here.

4.21 Lexical Distributions

Within the subregion one aspect of the lexical system is illustrated in the occurrence of nouns and nominal constructions. At its most general all speakers choose the same noun. From that common use, we find gradations in the choice of synonyms until at last we reach persons whose response differs from that of all of their contemporaries. Someone will say antelope, for instance, when others have said grasshopper, (No adjacent picture could have served as the source for this apparently wild choice.) The lexical system is intact because each has said a noun; the puzzle lies in one speaker's choice of so special a token. Ordinarily we would dismiss it as a slip of the tongue; in this report, however, we will discuss some implications of single choices.

At this point it is appropriate to comment on responses to pictures. In some instances a speaker clearly indicates that he knows a synonym but has chosen its counterpart: "all my life I have called them peckerwoods" is an explanation given after the person has said woodpecker. In other instances the picture itself is an object of comment: "Lightning bug? That's a poor picture of a lightning bug." In still other instances, cultural overtones of the picture serve as some kind of distractor. English speakers would have expected at least two different pictures to elicit the words jugs and urns, two of several responses to a single illustration which in Spanish speaking communities of Texas would be called an olla.[12]

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[12] Atwood, (1962), indexed under olla. Pictures in the interview manual were drawn initially for Mexican informants; hence olla is the expected response in the culture for which it was drawn.

Procedures for responding exerted an influence on the data selected for tabulation. From those pictures for which a short identification and naming of objects is required, we obtain the most explicit lists of words that can be compared county by county. From the next set, those that require additional commentary, the lists are satisfactory but the distribution is more difficult to interpret. When, for example, one group reports that hogs are *eating apples* while another group says that they are *eating slop*, the presence of one word does not exclude the knowledge of the other. The picture itself contains objects that look like apples; the choice of *slop*, a regionally significant word, may simply indicate that in that locality the phrase *hogs eating slop* is a linguistic whole which is induced by and limited to that situation. It does not provide the best evidence that the regional *slop* has its distribution only in these counties.

The least satisfactory group for producing word lists by county is that set of pictures which require an extended narrative. One gets useful words, but again the county by county comparison suffers. One picture, for instance, produced the synonyms *boy* and *ruffian*; *boy* we know is usual throughout this subregion; *ruffian* is recognized, though perhaps *drop out* would be the synonym that would replace it if the picture were shown today. *Ruffian* was not said often enough to provide the best comparisons and contrasts. In seeking appropriate words from another picture, our choice of *salt and pepper shakers* arose from their frequent presence as regionally contrasting synonyms of *salt and pepper shakes*. This tabulation is more significant for our purposes than that of the adjacent responses *turkey* and *chicken*, a matter not of regional difference but of interpreting the picture. Indeed, *salt and pepper* itself could have been examined as an area entry within this subregion since some speakers reverse the word sequence, calling the containers pepper and salt shakers. But because other examples of variable word order were not tabulated, we instructed the computer to consider these variants as the same word.

From an examination of the test printed by computer, it will be apparent that in this section of the study lexical words differ from text words. (Appendix B) The latter are words, 12 characters or less, as punched and printed. Lexical words, on the other hand, may include several text words; a hyphen has often been used to instruct the machine to classify them as units. The number 200, for example, is two text words joined two - hundred.

Maintaining this distinction between the two kinds of words was simple so long as we limited ourselves to numbers. When we came to names of other things we made decisions according to the computer problem at hand. Grasshopper is a single response, conveniently falls within the 12 character limit, and is treated as one word because it has no variant parts. Woodpecker, on the other hand, has a variant already mentioned, peckerwood. Sorting and tabulating was simplified by punching one as a single lexical and text word, and the other as a lexical word made of two text words with a hyphen. It was decided though that the element red head(ed) need not to be marked as a part of a lexical whole, red-headed-wood-pecker; red-headed serves no purpose in establishing regional distributions. But fence, barbed-wire fence and rail-fence were marked so that they would be classified as different lexical words.

With these preliminaries out of the way, we can now examine the ranges of lexical distribution. Representative words found in the entire subregion are *stove*, *towels*, *tiger*, *queen*, and *automobile*. A list of lexical words prevalent throughout the subregion provides a base for judging the relatively local nature of their synonyms. (Table 3)

These words set the norms of lexical performance in the regular selection of nouns. We must turn to other examples in search of permitted variation. Our first concern is to determine what record is available of that body of regional words brought into Tennessee and Alabama after the end of the American Revolution; (Map 3)

4.23 *Southern Concentrations*

Evidence for surviving instances of the Southern dialect is slight.[13] *Mosquito hawk*, the Southern synonym of *dragon fly*, occurs in two counties. Examples occur of *earthworm* and *eel worm*; these words also have origins elsewhere in the Atlantic states. *Wood bench*, a synonym for *saw horse* is not discussed in Kurath but his map (Figure 81) shows a concentration of *saw bench* in coastal and piedmont North Carolina. Hazarding a guess, we suggest that *saw bench* was brought westward and that its new users substituted *wood* as a means of identifying its function, that of supporting wood while it was being sawed. Two other words are included even though we have no report of their points of origin in Atlantic speech areas. They are *gopher*, a local name for *turtle*, and *catalpa worm*, one of the names of worms used for fishing. (Table 4) We were especially interested in *gopher* for we had heard persons in the Southern states use it when speaking of turtles. As for catalpa worm, it is a different sort of worm from the reddish earthworms that are meant in the bulk of other responses to the picture; the picture itself gave only the broadest indication that a worm of some kind was the bait. Their local distribution does help us delimit the area.

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[13] Southern as used here is that body of coastal and lower piedmont words from Virginia, the Carolinas, and Georgia according to the classification, listing, and mapping in Kurath (1949) and in McDavid's chapter and maps in W. Nelson Francis, *The Structure of American English* (1958).

The Southern dialect area is thus restricted chiefly to counties of south Alabama. (Map 4) This distribution conforms to an interpretation of lexical evidence already advanced elsewhere to the effect that a major boundary between Southern and Midland lies along the Alabama - Georgia state line; or, to state it negatively, the Southern dialect is not extensively represented in Alabama.

4.24 Midland Concentrations

Midland and South Midland evidence is more abundant. Its present distribution is a reflection of the movement of settlers from Virginia and North Carolina into eastern Tennessee and of later expansions. The Tennessee River (counties 1-13) provided a route into the interior and also led to avenues into the lower South (counties 20-29).

Before we interpret what does appear, let us note a negative instance. The Midland word worm fence and the piedmont hoppergrass do not occur though their presence is attested to in the formative regions of the Atlantic states. (Kurath: pp. 55, 74) Personal editing may have suppressed hoppergrass as we know it did in the instance of peckerwood. Worm fence, on the other hand, does not seem to contain elements which would cause speakers to hesitate to say it. If we assume that both words were originally known in parts of this subregion, we must conclude that they have been replaced by other words. If not known, then the result is the same. A part of a formative regional vocabulary has not established itself in the counties studied.

Going now to the positive evidence, let us consider rail fence. From present distributions it appears to have entered the region from two regions. That probably originating in Virginia and North Carolina is reported in counties 1 through 11; that which could have accompanied coastal Southern words is in counties 22 through 29; its absence in counties 20 and 21 suggests that no southward dissemination of the word took place from those Tennessee and north Alabama counties we first mentioned.

Other words follow the line of the Tennessee River and then move southward. Peckerwood, "common in the folk speech of the Virginia Piedmont and . . . in the mountains of North Carolina" (Kurath: p. 74) is widely reported; we do not get the impression from our informants that the usage is viewed as folk speech, though there is a hint that younger, college educated persons use it on less formal occasions than are found in the course of making a recorded interview. Red worm, the worm commonly used in fishing, may have originated in Pennsylvania. It is the "usual expression" in the mountains of North Carolina, Virginia, West Virginia, and Kentucky. (Kurath: p. 74) Two local words for dragon fly are the Midland snake feeder and the Virginia snake doctor from the piedmont. The first is reported mainly in Tennessee; the second mainly in Alabama. (Table 4) No explanation of this distribution comes to mind.

When we map these words we get a composite which shows that main contributions to the present regional aspect of subregional vocabulary in these counties have come from the Midland and especially South Midland. Further, we notice that the direction of this influence is both along the Tennessee River and south from it toward the Gulf of Mexico. Midland words are well established in the Southern dialect area of Alabama. (Map 4)

One set of words has not been examined up to this point because it seems to be at variance with preceding interpretations. Here is Kurath's comment on faucet (p. 56), the word in question: "The water faucet is known by that name only in the Northern area. The entire Midland and South have spicket (occasionally spigot). Faucet, to be sure, is not entirely unknown in this sense in the Midland and the South." Our evidence is that faucet is the usual word and that spigot is scattered, with at least three instances outside the area of main Midland concentration. If spigot was the original word, then clearly faucet is an innovation that has replaced it. Perhaps both were introduced at approximately the same time. The wider use of faucet, then, may reflect the presence of various commercial influences. This possible replacing of one acceptable word by its equally acceptable synonym gives us a hint of the lexical dynamics at work within the subregion. (Table 4)

Special Concentrations

Two concentrations from other points of origin are to be noted. (Map 5) In counties 20, and 7 through 10 rack or wood rack is used for saw horse. Kurath (1949: p. 59) places it in southern Ohio with "no trace farther east." In county 2 are single instances of fire fly instead of lightning bug, zig zag fence for a kind of rail fence, and *fishing worm*.[14] *Zig zag fence* is mapped in New England; *fishing worm* is from three possible centers. The one to exert initial influence upon the regional vocabulary of east Tennessee was upland Virginia and North Carolina, the region west of the Blue Ridge; next was western Pennsylvania and as pioneer settlements developed, the adjacent parts of West Virginia and Ohio. (Map 3) Into northern Pennsylvania, the route of *fire fly*, a synonym for *lightning bug*, is from further north, "Brought by New England settlers". (Kurath: p. 33) (Table 4)

4.33 *Numeric Lexicon*

During the course of an interview it is difficult to get persons to say numbers in an entirely natural way. When we ask them to call a designated number or to count from one number to another, these instructions cause speakers to speak more formally than they would in ordinary conversations. The design of the pictorial interview procedure helps us overcome this difficulty. Successive pictures are assigned numbers in no apparent sequence, and the informant is asked simply to call the assigned number before commenting on the picture itself. This specific and apparently random aspect of each number, its function as an introduction to a subject which requires comment, and its change with each new picture are provisions to insure that speakers will ordinarily choose the conversational rather than a more formal name.

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[14] The picture produced responses such as "fishing with a worm". Clearly *fishing worm* could have been the result of this combination of circumstances. But, since other persons named other sorts of worms, the response was interpreted in each instance as a specific regional name.

Community practices establish the ranges of choice. School obviously provides one standard of formality. Readers may recall drill sessions in which they practiced calling 152 *one hundred and fifty two*, clearly enunciating *one* and *and* along with -*dred* instead of -*ert* in *hundred*. Some may remember school room elegance which insisted on *eight thousand no hundreds and eighty six* as the name of 8086. Outside the school room conversational custom permitted reducing *and* to a syllabic *n* while at the same time it required 0 (zero) to be said as an explicit *oh*. Subregional practices show a permitted range of choice; at the same time a preferred choice within a county leads to a grouping of counties according to differences in local practice.

4.34 Number Names

All speakers within the subregion use the same names for any whole number below 100. Beginning with 100 they have a range of choices which permits dropping first elements in the name of the numeral if certain of those same elements are kept. When a number lies between 100 and 199, speakers usually omit *one* and reduce *and* to syllabic *n*. When it lies between 200 and 999, their preference is to treat it as a set of two numbers and to call the two in sequence without a connecting word. A less common practice is to use *and*; least common is to treat the number as a sequence of three separate numerals. An example will make these preferences explicit. The usual lexical words of 112 and 311 are *hundred and twelve*, and *three eleven*; rarer are *one hundred* and *twelve*, *three hundred and eleven*; almost unique are strings like *three one two*.

Because of our decision to use five pictures numbered 1,000 or above, we have a small but probably adequate body of evidence for the names of numbers of this magnitude. The main preference again is to reduce a large unit to sets of smaller units with the result that the usual lexical names are sixty fifty five (6055) and eighty eighty six (8086). As has already been stated, zero is regularly called oh. Full names like six thousand one hundred and fifty five are rare. (Tables 7, 8, 9)

4.4 Lexical Densities

Density maps enable us to discover where a particular usage is preferred and whether that preference relates to other known regional distributions. The map of preferences of oh as a part of the number string places centers of density in counties 4, 11, 12, 20, 21, 25, 26, and 27. That for the n reduced from and has densities in counties 6, 10, 12, 22, and 24. And finally the map of strings of number names shows this pattern concentrated in counties 1, 3, 4, 5, 8-12, 20, 21, 23-27, and 29. The subregion, then, has area preferences which sometimes intersect but often are distinct. (Map 5)

If ever there was a time when the vocabulary of this region could be divided into that of the mountains (Area A) and that of the lowlands (Area B), that time has passed. Communication and movement from the mountains to the coastal plain and back have assured interregional mixtures. When the vocabulary maps are compared, we notice that axes of agreement may begin with county 1, split at county 8, and continue from there to counties 13, 24, and 26. A second links counties 7 and

24. A third links counties 9, 10, and 11 with county 26 or counties 23-27 or with both.

One lexical hypothesis to be tested is that the numerical vocabulary had a common subregional distribution with that of the identifiable regional vocabulary. The density maps show that number strings such as three eleven occur in those counties which report densities of Midland words like red worm. On a smaller scale, the concentration of syllabic n for and occurs in the Southern counties in southeastern Alabama. (Maps 4, 5) In both instances there are counties which provide no match; the syllabic n, for instance, appears in counties along the Tennessee River not included in the Southern area. But differences of this sort appear in the word distributions in the Atlantic states, a region of greater dialectal stability than is found in those parts of the nation settled after 1800.

4.41 Aspects of Change

The implication thus far has been that changes in vocabulary are a reflection of movement and communication within this region. Other factors such as obsolescence need to be considered. That a word is rarely used may show that it is about to be discarded. Students have told us that antelope is indeed a local word for grasshopper; if so, it can be considered with woodchuck, an attested synonym for woodpecker (Atwood, 1962: 58). In these words the probability of semantic confusion and the prevalence of the synonyms grasshopper and woodpecker tend to speed the process of obsolescence. The words will remain; the special meanings will probably disappear.

With numbers our problem is different. To call 312 as three one two is to suggest a lack of instruction in the customary name of numbers. Attendance at school will force the disappearance of this name. On the other hand, a name like six thousand one hundred and thirty five will be reserved for use in school rooms and for those occasions which require great precision in calling a number. The usual short names have sufficient redundancy in themselves to meet our daily needs.

A second factor, the need for innovations, is best explained if we divide our collected lexicon into animate and inanimate categories. Additions are few to the animate list. Bone, beard, tiger, or flower, to add examples to the words already discussed, are linguistically sufficient for most occasions. The occurrence of gladiola instead of flower suggests a technical interest found in women's garden clubs. But hold-up man instead of the older robber, and traffic policeman as a specialized development from policeman depend in part on our response to the public presentation of events by means of print, radio, and television.

The list of inanimate things is a better source of evidence for the range of innovating lexical variation. Rail fence and its more local synonyms are Americanisms which were an outcome of pioneer life; dissemination of a given name depended on the movement of people from one locality to another and not on the product itself. With the advent of industrialization, the commercial name began to accompany the product where ever it was sold. Barbed wire, manufactured at the end of the nineteenth century, makes barbed wire fence an inevitable choice everywhere; variety occurs only in the pronunciation of the parts of the name itself.

Stove had its compound forms in *cook stove* and *range stove*. When new sources of heat are made available, then the identifying words are linked with it to form the words *oil stove*, *gas stove*, or *electric stove*. The chosen subregional word is determined by available fuels. The use of *eyes* instead of *burners* may have a regional aspect depending on spoken dissemination rather than on commercial terminology; our study, showing the presence of one and the absence of the other, does not cover a sufficiently wide geographic area to permit more than a guess. *Fly swatter* (or *swat*) is a manufactured thing; its entry in the *Dictionary of Americanisms* is dated 1931 but the words of the illustrative sentence look back a generation or so. With the appearance of insect sprays our need to talk about fly swatters has been reduced though not far enough to make the word obsolete. *Ice tongs* or *ice hooks* have become obsolescent with the disappearance of the ice man who once carried blocks of ice into the home; their use is now largely a part of the trade jargon in those plants which freeze and move large blocks of ice.

Car and *automobile* are common synonyms; we were surprised that *auto* was not named. *Get-away car*, of course, is a word from the language of publicized crime. *Revolver*, an Americanism from 1835, is a synonym for *gun* and *pistol* in this subregion; presumably the three are national synonyms except in the usage of those speakers whose technical knowledge requires them to distinguish *revolvers* from *pistols* and both from *guns*.

As for the national language of health, *capsules*, *pills*, and *drugs* must be entirely familiar; presumably the subregion will attach a national meaning of "narcotics" to *drugs*, but the evidence from our study is ambiguous since the test picture displays objects but does not identify them.

Mortar and pestle may be obsolescent; certainly (druggist's) mixing bowl is at least a geographically restricted usage. We have no useful way of discovering the full truth from the collected data. The mortar and pestle are a part of the public image which druggists display in their stores, but viewers may not know the names of the things displayed. In that case, mixing bowl might be the most likely set of words to come to mind. Pharmaceuticals, on the other hand, are a trade term used by those who manufacture, sell, buy, or prescribe medicines. The general public would recognize it as such and would say it, if at all, under very restricted circumstances.

4.42 Lexical Summary

The lexical system in the subregion is marked by gradation in the choice of nouns and nominal constructions. Geographically the range is from words reported in all counties by most speakers to the single county report by one speaker. The axes of similarity in word choice link Area A with Area B, indicating a dissemination of Midland vocabulary into a Southern region, the main direction of linguistic drift; and a less dynamic intrusion of Southern words and words of similar distribution into the Midland vocabulary. While the lexicon is generally stable within the region, there is evidence of obsolescence; further innovation arises from commercial sources, linking the subregion with national practices.

4.5 Phonological Distribution

The present analysis of phonological evidence is not directed toward establishing geographic distributions of minimally contrasting sounds within the subregion that are ascribed to national American speech; we will limit our attention to a survey of the geographic distribution of stressed vowels and diphthongs and of postvocalic /r/, major elements in discussions of regional pronunciation.

4.51 Procedures

Before we completed the machine program for phonology (FON), we decided to restrict our inquiry to the pronunciation of single words or at the most to three or four word clusters. The first words selected were those which were found as a part of the lexical program; when this list was found not to have representatives of the full range of vowel and diphthongs, we added enough words to complete the spectrum desired. Nose, for instance, was included because we had no good distribution of that vowel sound in the other responses.

These words were transcribed in the International Phonetic Alphabet system of notation. The original text sought to retain as many nuances as possible through a narrow transcription. It was compared at least twice with the tapes. Then it was punched in an alphabetic code adapted to the limitations of computer symbols. Where a letter for letter correspondence was possible, the code used the same letter; where impossible, it employed an asterisk, an unused letter, or a numeral. A, for instance, stands for the stressed vowel of father, A* for the vowel of fat, X for the vowel of up, and so on. (The IPA symbols and their code equivalents are in Appendix C),

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15. Hultzen, Allen, and Miron (1964) use a number code in preparing phonemic lists. The difficulty of remembering their code and reading their report convinced us that we needed to keep our code alphabetic.

With a narrow transcription before us, we could use that code with any degree of refinement desired. The chief consideration guiding us was the relative elaborateness of any program which would bring together the details that we wanted to compare. If we used fine gradations similar to those in Kurath and McDavid (1961), we could show the personal range of pronunciation of related words like four, door, hoarse, and mourn: FO*U*-8, DO*U*-, HO*U*-8-S, and MO*/-8-N.[16] A machine instruction to bring together all words coded O* would include these words and many more which did not have this diphthong in them. On the other hand, to specify O*/- would limit the collection to the last word in the list above and to words outside the list having the same code. To specify a search for O*U*-, would be to gather all instances but one from the illustrative group. Rather than develop an elaborate program for searching the text and eventually bringing together all these sounds to be counted as one, we decided that a broad transcription would separate vowels from diphthongs and consonants, and each from the other. The punched text, then, is an edited form of the original narrow transcriptions; its details are nearer to phonemic in the linguistic spectrum than they are to a phonic record such as we find in Kurath and McDavid.

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[16] The coding variations are based on the Kurath and McDavid transcription 128, Charlotte, N. C. These codes, of course, are in terms of speech rather than hearing. Scholes (1966) tested individual responses to synthetic vowel sounds. His findings illustrate the limitation that a given language puts upon the sounds which its users recognize as the same or different. But because there is no local counterpart to the Kurath and McDavid study, we follow their example. Further, the coding of speech sounds in acoustic terms is difficult; with increases in complexity here, the problems of machine comparison are doubled or tripled.

The FON program searched the text for designated symbols, sorted them, and listed and tabulated the results. Major sorting put the details into one of three groups: Option 1, those with stressed vowels equivalent to one from the list three, six, ear, ten, care, thirty, bag, barn, and college. Option 2, those equivalent to one from two, wood, road, door, sun, frost, and forty. Option 3, originally planned for the diphthongs in five, down, and boy, became a much more inclusive and variable list.[17]

The FON program produced a county by county record of the presence of the vowel or diphthong sound under consideration, a total of responses for Area A and B, and area percentages for each response. Further it listed the coded words used in the tabulations, the options under which designated sounds were sought, and a localized list of coded words which were not a part of the calculations. This printout enabled us to augment the major findings of any search by adding to the tabulations those special instances of vowel or diphthong occurrence which were unprofitable to include in the computer instructions at that point. The specific results are that in the phonological tables we have shown by +1, +2 etc. that we have added instances to the computer tabulations and have

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17. These illustrative words are from the lists printed on the right and left of each localized grid of pronunciation in Kurath and McDavid.

Options 1 and 2 were set with a limited storage capacity in machine memory. Option 3 was left so that it could accept a large number of variables. For that reason, we were able to search for the full range of a given word which occurred by itself or in combination with other words. After the variations of fence had been tabulated under Option 1, we were able to use Option 3 to search for rail fence, barbed wire fence and the like without causing the computer to report that a maximum of 33 responses to any item had been exceeded.

marked them in the appropriate counties. (Tables 10,11, and 12: FON printout illustrated, Appendix B)

4.52 Phonetic Stability

Some vowels and at least one diphthong have a reasonably uniform pronunciation throughout the subregion. The /i/ in checked vowel of cream and feeder, the /I/ in chicken, pig, pistol, sixty and spigot, the /u/ of moon, as well as the free vowels of three, two, and boy are the same everywhere. The coding of boy in two ways in the table is best interpreted as a difference of voiceprints rather than of phonemes. (Table 10) For phonetic-phonemic analysis this group of evenly distributed sounds provides a base for comparisons similar to that provided by evenly distributed lexical units.

4.53 Interpretation of Phonetic-Phonemic Variables

In words like fence we find pronunciations which contrast with each other in the way that sense contrasts with since. Strict adherence to a contrastive theory of phonemes would require us to treat the two pronunciations as different morphemes. An alternative is to view one sound as an allophone of the other; then we must decide which is the proper phoneme for purposes of classification. The procedure followed here does not resolve this difficulty; we have simply adapted the presentation in Kurath and McDavid (pp. 130-178), using their labels and our own cross classification.

We have divided the data into three large tables. One, that of the stable sounds, we have already mentioned; the other two are a table of variable vowels and diphthongs, and a table of the variables of postvocalic

/r/. (Tables 10,11, and 12) These display county by county the occurrence of sounds for which we have a record.

4.54 /I/ and Variants

The general distribution of a stable /I/ has already been noted. It is also usual in ear, beard, and mirror; a minority varient in /i/ occurs with these words. /I/ also has currency as a variant of /ɛ / in bench.

4.55 /ɛ / and Variants

General distribution of /ɛ / in the subregion is found in the pronunciation of twelve. Bench, wrench, fence, and nest have this vowel and variants in /I/ and /æ/ The latter occur in counties with a Midland and South Midland lexicon.

Diphthongal variants also occur; beginning with /ɛ / they develop a center or front glide, coded 8 and I* (I8 is used in the comments on /r/). Red headed suggests that variant forms are to be explained in part by word stress. Head(ed) is a monophthong everywhere; red by itself develops a fronting diphthong; as a part of the compound word it has the /I/ or /æ/ monophthongs. The diphthong variant which begins with /æ/ in bear may reflect the influence of the opening consonant /b/.

4.56 /æ/ and Variants

Although /æ/ is adequately represented, we do not have a representative word which reflects that pronunciation for the entire subregion. Lacking a number word, we resorted directly to pictures. The composite results are in the tables. The usual sound is /æ/ in dragon, mask, man, rack, etc. Diphthong variants with front or center vowels occur.

/æ/ also occurs as a variant of /ɛ/ and as a reduced variant of the /au/ diphthong in flower.

4.57 /e/ and Variants

The usual monophthong /e/ in eight, eighty, skates, snake, and shake(r) rhymes with vain and not with bed, an important point in considering westward dissemination of pronunciations from the Atlantic states. Kurath and McDavid give the latter sound as a distinctive feature of pronunciation in "Virginia east of the Blue Ridge" (p. 150).

Fronting diphthongs are variants in skates and rail; the centering diphthong in rail may reflect influences from postvocalic /l/.

4.58 /u/ and Variants

The monophthong /u/ as in pull is the usual vowel of foot and wood. A variant of foot resembles the vowel of two. Wood has a fronting variant that is a diphthong.

4.59 /o/ and Variants

A monophthong /o/ is the usual vowel of cone and roller. When lengthened somewhat it becomes a diphthong, the usual vowel of nose and stove, and an occasional variant of cone. Four has many variables, one of which is a centering diphthong.

4.60 /ʌ/ and Variants

The usual vowel is a monophthong /ʌ/, coded as X in the computer alphabet. Bug and gun have a monophthongal variant in /u/, rhyming with sue. The diphthongal variant in bug is fronting while that in cub is centering. Turkey, turtle, and worm occur in a variant coded UI*, phonetically [ɜɪ] ; it is found in counties in southeastern Alabama, the area of Southern lexical words.

4.61 /a/, /ɔ/ *and Variants*

The /a/ monophthong of *calm* and the /ɔ/ of *daughter* are sometimes kept distinct and sometimes intermingled. The total number of occurrences in which /a/ and /ɔ/ in *wasp* and *faucet* appear side by side is nearly even in both areas. /ɔ/ occurs somewhat more often in *barb(ed)*, *arm*, *stars*, and *car*. It is clearly dominant in *forty*, *horse*, *catalpa*, *hawk*, and *saw*. The /a/-/ɔ/ count for *hog* is complicated by the presence of a diphthong which begins with /a/ and ends with /ɔ/ ; the /ɔ/ monophthong has a wider geographic distribution within the subregion. Except for those induced in response to /l/ in *salt* and to many kinds of influence from present or absent /r/, diphthongs are not significant variants.

4.62 /aɪ/ *and Variants*

The diphthongal vowel in *fly*, *ice*, *pliers*, *wire*, and *lightning* has a diverse set of local characteristics (Kurath and McDavid, p. 109). Our coding reduces this diversity to two general states: (1) the fully articulated diphthong coded AI* or AI, and (2) the severely reduced form that is nearly a monophthong, coded A or A*.

The full diphthong /aɪ/ occurs in both areas of the subregion, but its greatest frequency is in Area B. The monophthong /a//æ/ is strongly represented in the responses from Area A, and less strongly in Area B. This latter distribution parallels lexical distributions from the Midland dialect.

4.63 /au/ *and Variants*

The diphthong /au/ in *flower* and *towels* is fully articulated in Area B; the reduced forms /a//æ//ɔ/ , coded A,A*, and O* occur mainly in Area A.

4.64 /r/ *and Variants*

The absence of postvocalic /r/ is popularly associated with the Southern dialect. In this subregion the facts of the matter are that /r/ is present or absent depending on speakers and circumstances. The tables represent a present /r/ by the code R, and absent /r/ by 8 in most instances but by UI* in *turkey*.

Even the most careful tabulation cannot show what happens in *four forty* or in *mirror*; the latter had so many variants that we finally decided to tabulate the /ɛ //ɪ / pattern and avoid the /r/ problem. Similarly *four forty* may have /r/ present in both words, absent in both words, present in the first and absent in the second, or absent in the first and present in the second. Our tables account for some but not all of these possibilities.

Postvocalic /r/ in *ear*, *bear*, *beard*, *forty*, *horse*, *four*, *water*, *doctor*, and *feeder* occurs in most counties of the subregion; its presence in *turtle*, *turkey*, and *worm* is recorded less often.

The "loss" of postvocalic /r/ in these same words is more characteristic of Area B than it is of A; nevertheless, it is recorded for some counties in Area A.

4.7 Phonological Densities

The text, maps, and phonological grids in Kurath and McDavid clearly show the gradations of sound in each regional dialect that are treated as the same distinctively regional pronunciation. These gradations of "same regional sound" are far more varied than are the gradations of "same lexical word". Phonological boundaries do not seem to us to permit the drawing of phonetic isoglosses with the sharpness that we use in drawing lexical ones.

Granting that gradation is characteristic of the Atlantic phonological characteristics, we are bound to expect a larger degree of gradation in the interior states because of the conditions that have brought about a mingling of the Atlantic usages.

The most practical way for us to overcome the effects of this mingling is to discover where densities of a specific pattern occur and then compare those with densities of other patterns. A map of reduced diphthongs from /aɪ / and /au/ , if combined with the /æ/ variants of /ɛ / in *bench* produces a density map for these features in counties 6, 8, and 21 (Map 7). A similar map showing the counties with the greatest number of /a/ and /ɔ/ variants in *wasp*, *arm*, etc. will include counties 3, 4, 10, 20, 21, 24, and 26 (Map 6). The presence and absence of /r/ overlap most often in counties 3, 4, 6, 8, 10, 11, 23, 24, 25, and 27 (Map 9). An important intermingling is that of /ɪ / in *fence* with /ʌɪ / in *worm*, *turtle*, and *turkey* (Map 8); it makes explicit the dissemination of Midland influences into potentially Southern counties.

When we combine all of these maps, we identify counties 10, 24, and 26 as the centers of great linguistic diversity and contrast. Beside the locally variant instances which we have mapped are the larger regional uniformities which we have left unmapped. Based on our evidence, these are subregional centers of phonological change.

4.71 The Substance of Change

Unlike the lexicon which varies with aging or innovation, subregional phonology is relatively stable. New lexical words are shaped from customary sounds put in traditional sequences. The system of pronunciation changes slowly, influenced by personal concepts of refined diction, by schooling, by travel, by hearing how the world beyond the region talks. Thus innovations do establish themselves slowly.

If one assumes a general dissemination of Midland features southward, then the reduced diphthongs will be the innovating elements, and /r/ will replace the pronunciations which lack that sound now. As for the /a/ and /ɔ/ variants, each seems to be a satisfactory allophone of the other. If phonological drift favors the more frequently recorded form, then /ɔ/ will eventually prevail. At the present, no such outcome is imminent.

In terms of patterns of geographic distribution, the axes of phonological similarity between counties correspond generally to those of lexical similarity. Each linguistic element has both major and minor links, some of them encompassing the whole subregion while others extend scarcely beyond two adjacent counties. All other things being equal, we must assum that those parts of the system which have the widest distribution will replace the allophonic variants with limited distribution.

4.8 Grammatical and Syntactical Distribution

This part of the study undertook to discover similar and contrasting syntactical patterns having geographic distributions comparable to those identified in the lexicon and phonology. Assumptions that a general system lies behind the more obvious syntactical chains make it difficult to discover anything other than similarities. If, for example, we accept the concepts of deep and surface grammar as presented in generative grammars, then all sentences at a very deep level are represented by the cover symbol S, rewritten next as NP+VP. Only when we come to a surface grammar and its rewriting as particular sentence words, do we reach a level where matching and contrasting grammatical or syntactical elements can be identified. That is when VP (verb phrase) is rewritten as V (verb) followed by NP (noun phrase), in turn rewritten as Det (determiner) followed by N (common noun), then we have reached a level that permits caught the grasshopper to be contrasted with by the grasshopper.

4.81 Procedures

Our first decision was to employ a slot and filler concept as the most practical device for a machine comparison of words in sentence positions.[17] The general design is an eleven slot frame. Any part of speech can be assigned to any slot. Our procedure is to use the center slot as a position for nouns (or nominals) that had been collected in the lexical survey. The computer program (SYN) places that noun and then inserts the preceding words from the sentence in slots A5 to A1 and the succeeding words in slots C1 to C5. The program processes the sentences so that editorial insertions such as periods and HINT are removed, hyphens employed in showing semantic unity are ignored, and vacant slots are filled with six periods.

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[17] Gleason (1956, p. 80) praises descriptive innovations in Fries' The Structure of American English but adds "the easiest criticism to level against his work is grossness." We recognize that a similar criticism could be leveled against the present study; our reply is that gross features need to be identified before refinements can be introduced. At present, gross features are the ones that we can sort and compare.

The SYN printout in part is a concordance text of responses in the sentences being searched. This listing format gives us an opportunity to examine the reconstituted text for similarities and differences that are visually apparent. An extract from item 433, grasshopper, will show an advantage of this format for the observer:

A5	A4	A3	A2	A1	base
four	thirty	three	is	a	grasshopper
hundred	and	thirty	three	a	grasshopper
......	......	four	thirty	three	grasshopper

For computer analysis of grammar classes this format has the advantage of listing the evidence by columns which can be inspected and compared with a dictionary. (Texts in Appendix B)

4.82 Aspects of Local Syntax

When we look for detailed compilations of regional syntax that will compare with the lexical and phonological evidence, we find maps of variant forms of verbs (Atwood, 1953), of phrases (Kurath, 1949) or a map and lists (McDavid in Francis, 1958). From these studies we can discover geographic distributions of dived and dove, of you-all and yous, and of sick at the stomach or sick to the stomach. But they are silent on other usages which arise in the course of a conversation. Or, to take an instance from print, what can we say about the geographic distribution of preposition plus plural noun in *of mornings*. That the phrase is cultivated, edited usage is obvious from its setting. It appears in the book review section of *The Key Reporter*, a publication of Phi Beta Kappa (Spring, 1967), in "a series of letters addressed of mornings to a class". What we need to know is the regional distribution of this usage in preference to or beside *each morning*, *in the morning*, or *daily*, usages which have other syntactical patterns.

For the moment, let us examine regional constructions as McDavid lists them (1958). *Sick to the stomach*, *all to once*, *to home*, *he lives in King Street*, *we stood on line*, *hadn't ought*, and *waked up* are localized within the Northern dialect area. Some of these contrast with Midland in word choice; others do not. *Sick on the stomach* and *got awake* contrast; *a little piece* ('short distance'), *all the further* ('as far as') *sot down*, *I'll wait on you* ('for you'), and *I want off* are different. Southern shares features with Northern or Midland, and has some distinctive traits of its own. It contains these: *it wan't me*, *he belongs to be careful*, *heern tell*, *he fell outn the bed*, *on account of* ('because'), *all two*, *I ran up on him*, *he did it for purpose* ('on purpose') , *I might could*, *I'm not for sure*, *I've done told you*, and *use to didn't*.

Those regional differences are sometimes a matter of lexicon and not of grammar or syntax, a choice between *on* and *at*. In other instances, the contrasts are syntactical; *got awake* differs in word sequence and in verb construction from *waked up*. It is these latter characteristics that we hoped to identify by inspecting the concordance format. We did not think that we would find repetitions of specific phrases that appear in McDavid;

the possibility that a picture would lead even two people to say the same regionally distinctive phrase and that it would be one from his list seemed entirely remote. What we did hope to find was visual evidence for contrastive synonymous structures in the same portions of the reconstituted text.

4.83 Syntactical and Grammatical Fixity

An inspection of the first five columns in reconstituted texts gives an impression that each column is almost exclusively restricted to one grammatical entity. This impression becomes particularly strong if we confine our inspection to those records which contain responses to the number and name only. The syntactical design of these is subject, verb, complement. Since the verb is serves as a link between subject and complement, its omission is no problem. But reconstituted statements which lack a verb as in two -- hat present something of an analytical puzzle. If hat is in the base position, we classify it as a noun; two, occupying A1 slot, is by slot definition a modifier or a verb. The context tells us that it is neither, but that our classifications can be best preserved if we tabulate it as a quantifying adjective.

4.84 Syntactical Variation

With that decision in mind, let us look at two instances from the lexicon we have already mapped. We know the geographic distribution of woodpecker, peckerwood, and of two thirteen and two hundred and thirteen, and the methods used to get the computer to tabulate these correctly as single lexical items. Now if we instruct the computer to separate them into discrete entities which can be placed in successive slots, we encounter descriptive problems. Wood+pecker, pecker+wood can be viewed as a string of names the possibility that a picture would lead even two people to say the same regionally distinctive phrase and that it would be one from his list seemed entirely remote. What we did hope to find was visual evidence for contrastive synonymous structures in the same portions of the reconstituted text.

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When we consider the numerals, we find obvious syntactical differences between two statements. Two thirteen is a two word sequence; two hundred and thirteen is a four word sequence in which the first two are linked by no open sign except sequence, the third is explicitly a conjunction, and the fourth is the noun linked to the first two. Readers may feel that two does not modify thirteen in exactly the same way that it modifies hundred. The importance of these two forms of the same number is not only in the difference of their syntactical patterns but also in their known geographic dispersion within the subregion. Their distribution and the distribution of similar ways of calling numbers below one thousand is the most definitely mappable body of syntactical evidence that we have. In other words, one geographic occurrence of syntactic variation is shown by the map of these contrasts. (Map 5)

4.85 Simpler Responses

In giving a picture number and a name, our informants regularly ended their statements with the name itself. The reconstituted sentence, as we have seen, puts that name in a base slot and the number preceding it in slot A1: four queen, three grasshopper, seven junebug.[18] As expected, the usual grammatical unit in slot A1 is a determiner, specifically one of the articles *a*, *an*, or *the*. A sample count shows that *a* is preferred. In item 34 before *queen* the ration is 20 of *a* to 1 of *the*. In item 108 before *bone*, *a* is the only choice except for one instance of *the arm bone*. In 118 before *cross* and in 433 before *grasshopper* the ratios are 23 to 1 and 17 to 2 respectively. Item 699 provides a mixture of *a* and *the* in *a wasp and the nest* and *the wasp and a wasp nest*.[19] At times a choice of *the* may be influenced by subregional variation comparable to *the wife* instead of *my wife*. Visual inspection has not produced evidence for or agains this syntactic possibility.

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[18] In the tape record transition from number to name is smooth; no audible pause comes between the two; further, no shifting of syllabic linkage takes place as it does when /d/ in barbed is shifted to form /dw/ with wire.

A verb which follows these number words is ordinarily *is* even when the subject matter is plural as in *seven is junebugs*. The influence of the number itself is the shaping force, aided perhaps by the singleness of any picture as a thing in itself. The variants of *is* are phrasal substitutes like *must be* or *may be*, or they are other verbs at random in contexts like *we have*, *we call it that*, and *it looks like*. The nearest slot in which *is* customarily appears is A2.

Some as a quantifier appears in A1 before plurals. It also is an element of a string containing *of*. In slots A5-A1 the order of elements is *some kind of* (bug); in C1-C5 *of* is put at the other end: (bone) *of some description*, *of some kind*, or *of some animal*. These variations in syntactic pattern are common to the entire subregion.

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[19] Here the printed details may not be entirely in accord with what the speaker intended: *the* ordinarily goes before plurals, a controlling factor in choice even though the /s/ signal is hard to hear in some tapes.

Two contrasting syntactical devices have been combined into one function. If in the base and Cl slots we have queen crown, we have two words of equal value in a list. Speakers can and do join them by and or by with: queen and a crown, queen with a crown. Preferences vary from item to item. In 34, the one containing queen, the ratio is 7 for with to 2 for and; in 851, it is and 14 to with 1 in the contexts rail fence and a more modern fence or rail fence with a barbed wire fence. The lexical elements differ; presumably we still want to keep and in the grammatical class "conjunction" and with in the class "preposition". Syntactically, however, speakers in the subregion have given a coordinating function to with by placing it in the same context that calls for and regularly.

One final detail needs comment. In some instances the gender of a pronoun does not correspond to the presumed sex of an antecedent. It strikes us as a significant variation to have he or his refer to grasshopper. The search pattern does not provide an extensive inventory; nevertheless single instances are so striking as to suggest need of a thorough study of pronoun antecedents in conversational English.[20]

4.86 Complex Responses

When we move from sentences which mainly number and name to those that allow extended comment, we find additional syntactical patterns. For one thing, the varieties of sentence pattern immediately after the base word are more abundantly illustrated; for another, the portion immediately before the base may be so far away from the beginning words of the sentence that no number word is included.

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[20] On a television program in August, 1967, a physician kept calling a female baby he despite everybody's knowledge that it was a she.

Picture 1903, an illustration of bears, will furnish a representative instance of continuity and change. Position C1 contains the *with*/*and* link. In the same slot are eight instances of the start of new sentences, three of which begin with *one of them*. Eight other words in this slot have a word with an -*ing* suffix. Two are part of a verb sequence which occupies three slots, *trying to get*. The others are participles: (bear) *stealing honey*, *getting honey*, *robbing a beehive*, *standing under*, and *tearing down*. This same suffix occurs in later words: *It's catching honey* (C2), *is disturbing the hive* (C3), *cub robbing*, *them getting* (C4), *is breaking*, *is going*, *eating getting*, *looking* (C5). *Eating* in C5 is most distant from the word it modifies, the base *bear*. While syntactical relationships can be maintained over four intervening grammatical slots, as in this example, common practice joins an -*ing* form with a nearer word. *Breaking* and *going* are the second elements of verbs which begin with *is* in C4; *getting* and *looking* modify *bear* in the same slot.

The conjunctive use of *with* has been noted. Two other prepositions alternate with each other and enter into this same general pattern, *in* and *after*. Each can occur in slot C1 as an introductory word for a syntactical arrangement extending to slot C4: (Bear) *after bees*, *after the hornet's nest*, *in a beehive*, and *in the honey*. *After* and *in* appear to be interchangeable except perhaps for the phrase*in bees; an addition of *the* after *in* appears to resolve this difficulty. Can we substitute *and*/*with* while leaving the syntactical relationships the same? Apparently not so freely. Some kind of context sensitivity resolves these potentially ambiguous structures within a few slots of the start. Notice the resolution in these instances from the reconstituted text:

base	C1	C2	C3	C4
bear	and	her	cub	which
bear	after	bees	the (new sentence)	
bear	with	the	cub	robbing
bear	in	a	beehive	......
bear	with	her	cub	and (new sentence)

The uniformities and variables we have noted are to be found in sentences from the entire subregion. That is, their distribution is geographically random.

The final pictures of the interview manual introduce variable nouns in place of a single base word. Picture 8086, for example, shows a robbery at night. No word comparable to *bear* or *grasshopper* is repeated in each account of the events. For this reason we set up a search list containing the words *robber*, *man*, *gun*, *car*, and *mask*. Perhaps this range of words is grammatically and syntactically as uniform as are the single words in shorter entries. On the other hand, we must be aware that context sensitivity may work in such ways that the comparisons from sentence to sentence are less that exact.

Number words seldom occur in slots A2 and A1; that is the number identifying the picture is ordinarily called at an earlier stage in the sentences. In slot A1 the ratio between *a* and *the* remains about the same as it is in the shorter responses. One element appears that has not been observed in shorter entries though presumably it could have been introduced;

it is the word *this*, used as a kind of substitute for *a* and not as a mark of identification or a contrast with *that*. Representative phrases are *by this robber here*, *I guess this man*, *holding up this man*.

And and *with* continue to occur in parallel contrast, though the tendency toward *with* in a prepositional sense is strong as in *a holdup man with a mask*. The other prepositional structures do not commonly occur in the longer examples studied. Rather we find slot C1 occupied by instances of *has*, *who's*, and *he's*, words which introduce main verbs in C2 or C3.

The number of words in -*ing* is small. In C1 *holding*, *robbing*, and *waiting* modify a base word. An auxiliary *is* introduces -*ing* forms of the verb in C2, C3, and C5. *Trying* (C5) is an active modifier of the noun in the slot immediately before it. On the other hand, quasi-passive constructions with an -*ed* suffix occur from C2 to the end: *with a pistol pointed*, *got a gun drawed*, *got his face masked*.

Beside certain verb constructions are parallel noun patterns which give the same information. *With a mask over his face* contrasts in a single word with *has a mask over his face*; both of these contrast in one or another feature with *he's got his face masked* or *with a mask on*. In short, greater freedom in commenting on a picture introduces a greater number of syntactical variants that we find in the available slots. The variants seem entirely regular in their patterns of organization though they may contain a word like *drawed* which has only local acceptability.

Holdup gives an indication of the syntactic range that can develop within regional vocabulary. The verb as an Americanism for "robbing a traveler at the point of a gun" dates from 1851. This verb usage is presented in Webster's *New International Dictionary* (1920) without comment. The noun, a *holdup*, dates from 1878 according to a citation in *A Dictionary of Americanisms* (ed. Mathews, 1951). It is called U. S. slang in Webster, colloquial in *Dictionary of Americanisms*, and informal in *The Random House Dictionary of American English* (1967). An adjective function is not reported in these dictionaries so far as we can discover, yet obviously the word occupies that functional slot in *a holdup man*. The texts show that *hold up* has the same syntactical functions as *robber* and *robbing*; oddly enough *robbery* does not appear as synonym.

Presumably *holdup* will remain on a social par with *robbery* which it has replaced in the present context. Functionally, it illustrates the ease with which a given word can be put into new categories as occasions arise. It operates there according to immediate rules governing its form and functions. *Hold+up* as a noun requires *a* or some other preceding determiner and permits the plural *holdups*; as an adjective it occupies a slot before a noun but does not permit any distinctive changes in its form; as a verb it occupies predicate slots and can undergo changes in form such as *holding up*. These syntactic characteristics are assumed to be common for the whole subregion.

4.87 *Syntactical Preferences*

We can now turn to the other part of the syntactical program, the printed tabulations of selected parts of speech by county and area. These tabulations are the result of an automated comparison of the words listed in each slot with a dictionary entry bearing a grammar label and based on entries in the Jones and Wepman frequency table of spoken English (1966). We took their listing of functional words: adverbs, auxiliaries, articles, conjunctions, prepositions, pronouns, quantifiers, and relatives. The computer program then counted the occurrence of words in the text which matched words in the dictionary, entering the count by geographic place, slot position in the sentence, and by grammatical class. (Appendix B and Table 13)

Nouns were omitted since their common occurrence in the base position assured a frequency equal to the total number of sentences tabulated. Adjectives and main verbs were also left out for two reasons: Their abundance would extend the running time of the search program unduly, and their place in syntactical patterns can be viewed as more nearly informative than functional.

Automated grammar search uses the computer to good advantage by causing it to examine and record objectively the details found in an extensive body of data. The printed county by county record has proved the most difficult to use mainly because of the great body of detail which occurs. Our efforts to map these syntactic traits or grammatical variations have not proved successful beyond what we had already discovered through analysis of lexical distributions.

To go from the trees to an overview of the forest provided by the summaries of grammatical occurrence in each major area, we find subregional patterns of preference which surely corresponds to national patterns. Articles (a, an, the) commonly precede nouns. If we begin with slot A5, articles can occupy it and any position before the base; the preferred slots are A2 and A1 with 100 or more instances recorded for each; the next though lesser preference is C2 with 70 instances, indications that a second noun is to appear shortly. Quantifiers (numbers and words like all, half, least) are most often reported in the first four slots; elsewhere they show a marked decline in preference. Auxiliaries (is, must, can) exceed 100 instances in A2; their rarest use, a single instance, is reported in C1, a slot immediately following the base noun.

Grammatical classes that occur in appreciable numbers though less often than the classes just named are conjunctions, prepositions, and pronouns. Adverbs and relatives (how, that, what, when, etc.) are rare. To begin with the first, conjunctions are found most often in slot C1, rarely in A1 and C2, and fairly often elsewhere. Prepositions also occur quite often in C1, perhaps a confirmation of our earlier remark that some prepositions have been shifted to the conjunctive function of and. The pronoun preference is for slots C1, 2, and 3. As for the rare grammatical classes, the adverb maximum barely goes above 5 instances in C2 and C4; the maximum for relatives is 4 in C1, C2, and C4.

As we have said before, these numbers require interpretation. The high count of quantifiers and of is is a consequence of using numbered pictures as a stimulus. Further, the position of grammar classes with respect to each other in a whole sentence may have an impact that produces different results from those shown here. If the single instance of is following the base noun were shifted with it to slots further to the left (i.e. if the noun and verb moved toward the start of a sentence), the preference for is should increase.[20]

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[20] Comparison of our results with that of Stolz (1964) in terms of probabilities of occurrence or of restraints imposed by one grammatical structure on others would be unprofitable. His data are from both spoken and written sources and derive from syntactic sequences in the entire sentence; ours are spoken and derive from an interior sample of a full sentence.

Returning to the current tabulations, we can properly ask what clues would mark the differences in syntactical pattern between Area A and Area B, if any. For these tables a useful clue would be a marked contrast in area totals in nearby slots. Quantifiers provide an example of what is sought. In Area A the total of quantifiers in slot A4 is 78; in Area B, 104, a difference of almost 30. In slot A2 the larger number of instances is in Area A, 70; in Area B the number is 53, a difference of almost 20. The other grammatical units, however, do not provide a parallel set of contrasts in totals. Apparently, then, we are to conclude that the overall syntactical pattern is uniform within the subareas and the subregion. The variables within the quantifiers are reflections of syntax patterns specifically associated with the names of numbers.

5. Conclusions and Implications

A computer search of transcribed regional speech shows that for American English in the Tennessee-Alabama region studied there are uniform aspects of lexicon, phonology, and syntax for the entire subregion. Further it shows that smaller lexical and phonological groupings occur within areas of that region and extend from one area to the next; these are illustrated by intermingled local words which have their origins in Midland or Southern speech communities of the Atlantic states. In words that name numbers the lexical evidence provides a sign of an element of subregional syntax, identified and mapped according to its distribution in Areas A and B.

From available evidence we deduced that changes in lexicon are readily made when a situation arises calling for them; the newest words in this subregional vocabulary are now introduced by national public means such as the press, television, and radio. Changes in pronunciation are less readily produced; new words, for instance, are adapted to the local system of phonemes. One change that seems to be gaining ground is the reduction of some stressed diphthongs to monophthongs. Another, the presence or absence of postvocalic r, is quite mixed. Changes in syntax are less easily detected. One apparently clear instance is the shift of with from a prepositional function to a conjunctive function equivalent to that of and. The other syntactic variables from the transcriptions appear to be acceptable alternate forms randomly used in the entire subregion.

Implications for linguistic researchers are obvious. The grammar and syntax of spoken English need additional study by and for themselves. Such a study can be aided by the use of computers, but much still needs to be done to adapt the rigidities of computers to the varieties of spoken discourse whether viewed as a continuum or as a body of separable parts which have here been called lexicon, phonology, and syntax.

Implications for educational researchers are equally obvious. A technique of pictorial interviewing is useful in that it provides a taped and controlled record of what is said. From this record one can derive evidence of natural syntax, pronunciation, and lexicon as distinguished from edited and printed versions of the same language. Application of these findings to specific problems such as the training of school dropouts would involve at least identifying the points at which their patterns depart from the larger evidence and the points at which both coincide.

What we suggest is that attention needs to be given to the interrelated parts of linguistic systems at hand rather than to the variations even though we may first use variation as a means of recognizing the system in which it operates.

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APPENDICES

A TABLES AND ILLUSTRATIONS

Lexical, phonological, and syntactical tables of occurrence and distribution

Lexical and phonological maps

B SELECTED IBM PRINTOUT

Continuous text

Lexical computations

Phonological computations

Syntactical computations

C COMPUTER DETAILS

General flow chart

Phonological code

Card and program conventions

TABLE 1

Sex, Age, and Education of Speakers

Male				Female			
Age	Education Level			Age	Education Level		
	1	2	3		1	2	3
20-60	1	0	6	20-60	0	1	0
60-80	1	8	1	60-80	6	8	1

Education levels:
1 - 1st to 6th grade
2 - 7th to 12th grade
3 - College and beyond

TABLE 2

Analytical Use of Response Data

Item No.	Data for Program			Count of Text Words
	LEX	FON	SYN	
13	o	o	o	892
15	o	o		
20	o	o	o	602
34	o		o	253
37	o		o	1,869
42	o		o	2,354
60	o		o	309
79	o	o		
90	o	o	o	1,310
99	o	o	o	1,162
106	o	o		
108	o		o	801
112	o		o	1,598
118	o		o	512
135	o	o	o	355
140	o	o		
167	o	o		
172	o	o		
179	o		o	2,017
196	o		o	319
213 #	o	o	o	2,544
225	o	o	o	2,287
311 #	o	o	o	338
312 #	o	o	o	670
407	o	o		
433 #	o	o	o	476
464 #	o	o	o	423
466	o	o	o	2,309
570	o		o	1,133
587 #	o		o	894
680 #	o	o	o	1,594
699 #	o	o	o	2,033
851	o	o	o	3,366
945 #	o	o	o	1,239
1792	o	o	o	1,603
1903	o	o	o	2,822
4203	o	o	o	1,716
6055	o	o	o	3,118
8086	o	o	o	4,484

pictures added by Wood

The count of text words is sometimes increased by the decision to limit word length to 12 characters on the punch card. A word like *pharmaceutical* becomes two text words, *pharma* and *ceutical*. This splitting occurs so rarely that it does not make a significant difference in the totals for text words.

In the list above some entries do not have a word count. These entries were chosen for their contribution to the phonology, a contribution which could also be counted in the lexical analysis; a machine count of the words in the whole sentence was not made since it contributed nothing to the phonological record.

TABLE 3

Subregional Words in Most Counties

Picture No.	Lexical Word
13	stove
20	towels
34	queen
42	fly swatter
60	door
99	beard
108	bone
112	tiger
118	cross
135	faucet
196	automobile
213	turtle
225	iris
311	woodpecker
433	grasshopper
464	dragon fly
466	wrench
570	wrestling
587	june bug
680	lightning bug
699	nest
851	barbed wire fence
945	worm(s)
1792	hog
1903	bear
4203	salt and pepper shakers
6055	boy
8086	car

Note: Items 13-945 required individual names; 1792-1903, comment; and 4203-8086, explanation.

TABLE 4

Selected Regional Word Distributions

Item No.	Lexical Word	Occurrence				County Distributions																						
		No.		Pct.		A													B									
		A	B	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
Southern Origin																												
464	mosquito hawk		2																							o	o	
945	earthworm	1	3	25	75		o																o	o				o
945	eel worm		1																		o							
945	catalpa worm	1	4	20	80						o											o	o				o	
213	gopher		2																								o	o
407	(wood) bench	3	3	50	50										o	o							o	o			o	
Varied Origins																												
407	(wood) rack	5	2	71	29									o	o	o				o								o
680	fire fly	1	1	50	50		o																	o				o
945	fishing worm	1	1	50	50		o																		o			
851	zig zag fence	1					o																					
Midland, South Midland Origins																												
851	rail fence	10	11	47	52	o		o		o		o	o	o	o						o		o	o	o		o	o
311	peckerwood	8	7	54	46			o	o	o	o	o	o	o		o					o		o		o			o
945	red worm	14	4	88	22	o	o	o	o	o			o	o	o	o	o	o	o	o				o		o		
464	snake feeder	5				o	o	o	o																			
464	snake doctor	6	4	60	40				o		o			o	o	o		o	o			o		o				
135	faucet	12	8	60	40	o	o		o	o	o	o	o		o		o	o					o		o	o		o
135	spigot	3	4	42	57				o							o		o		o			o	o				

TABLE 5

Inanimate Things

Item No.	Lexical Word	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution A 1	2	3	4	5	6	7	8	9	10	11	12	13	County Distribution B 20	21	22	23	24	25	26	27	28	29
13	stove	15	10	60	40	o	o	o	o	o	o	o	o	o		o	o	o		o			o	o	o	o		
	cook stove	1	2	33	66										o				o									
	oil stove	1														o												
	electric stove		3																		o		o				o	
	gas stove		2																				o		o			
	range		4																			o	o	o				o
	range stove	2									o				o													
13	eyes	5	3	62	37	o		o	o	o								o		o			o			o		
	eyelets	1							o																			
13	oven	1	3	25	75		o																o			o		
	closet		2																				o					
20	towels	15	10	60	40	o	o		o	o	o		o	o	o	o	o	o	o	o	o	o	o	o		o		o
	hotel towels	5	7	41	58			o	o		o		o										o	o		o		o
37	jugs	5	4	55	44	o					o			o	o	o				o			o		o			
	urns	2	7	22	77								o				o		o		o		o	o	o			
	jars	4	4	50	50								o					o				o	o					o
	vases	3	2	60	40	o	o	o															o					
	pots	2	1	66	33					o						o											o	
42	fly swatter	7	11	38	61	o	o		o	o			o	o		o					o	o	o	o	o	o	o	o
	swatter	6	8	42	57						o	o	o		o		o	o	o				o	o	o		o	
	fly swat	3							o				o			o												
	fly flap		1																	o								
60	door	20	17	54	45	o	o	o	o	o	o	o	o	o	o	o		o	o	o	o	o	o	o	o	o		o
	doorway	3	2	60	40	o	o		o											o								
60	door frame	1	3	25	75					o												o				o		o
	jamb	1							o																			
	facing																		o									
	casing		2																									

TABLE 5

Inanimate Things (continued)

Item No.	Lexical Word	Occurrence				County Distribution																						
		No.		Pct.		A													B									
		A	B	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
60	knob	7	4	63	36	o			o	o			o					o		o			o					o
	handle	2	1	66	33		o	o																		o		
90	ice tongs	7	5	84	41				o				o	o	o	o					o		o		o			o
	tongs	1	7	12	87													o					o	o	o			o
	ice hooks	1	4	20	80										o				o			o		o		o		
	ice holder	1					o																					
118	cross	17	16	51	48	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
135	faucet	12	8	60	40	o	o		o	o	o	o	o		o		o	o					o		o	o		o
	spigot	3	4	42	57				o							o		o			o			o	o			
	water faucet	3	4	42	57				o							o	o			o	o				o			
	water spigot	1	2	33	66											o							o					
	hydrant	1	1	50	50						o																	
	water hydrant		1																			o						
	water tap	1												o														
	handle	4	2	66	33	o	o	o										o		o						o		
140	capsules	12	8	60	40		o		o				o		o			o			o	o	o		o	o		o
	pills	5	10	33	66	o		o	o	o								o	o	o	o		o	o	o	o		
	drugs	1					o																					
	pharmaceutical(s)	3					o	o	o																			
140	pestle	4	5	44	55			o	o						o						o		o	o				o
	mortar	3	6	33	66		o								o						o	o	o		o			o
	bowl		5																		o	o	o		o			
179	gun	4	3	57	42	o		o		o					o					o			o					
	pistol	5	2	71	28		o		o				o					o					o			o		
	revolver	2							o		o																	

TABLE 5

Inanimate Things (continued)

Item No.	Lexical Word	Occurrence				County Distribution																						
		No.		Pct.		A													B									
		A	B	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
196	automobile	9	12	42	57		o	o	o	o		o		o	o	o			o		o	o	o	o	o		o	o
	car	9	4	69	30	o	o		o		o		o			o	o	o		o			o	o		o		
312	pliers	12	25	32	67	o			o	o		o	o			o	o	o	o	o	o	o	o	o	o	o	o	o
	wire pliers	5	1	83	16		o	o	o		o				o											o		
407	(wood) bench	3	3	50	50										o	o						o					o	
	(wood) rack	5	2	71	29								o	o	o				o									o
466	wrench	14	14	50	50	o	o	o	o	o	o		o	o	o	o	o	o		o	o	o	o	o		o	o	o
	monkey wrench	4	5	44	55		o			o			o										o	o	o			o
851	barbed wire fence	14	14	50	50	o	o	o	o	o	o		o	o	o	o	o	o	o	o	o		o	o	o	o	o	o
851	rail fence	10	11	47	52	o			o		o		o	o	o	o					o		o	o	o		o	o
	wooden fence	2	2	50	50		o	o											o	o								
	zig zag fence	1					o																					
	web lock fence	1												o														
	cross fence	2	1	66	33												o	o						o				
4203	salt and pepper shakers	9	6	56	42	o	o	o	o	o					o	o	o		o				o			o	o	o
	salt and pepper shakes											o	o							o		o	o					
	salt cellars	1																o										
6055	ice cream cone	7	12	36	63	o	o	o	o		o	o					o	o	o		o		o	o	o			o

TABLE 6

Animate Things

Item No.	Lexical Word	Occurrence				County Distribution																					
		No.		Pct.		A													B								
		A	B	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
34	queen	16	14	53	46	o	o	o	o	o	o	o	o	o	o	o	o	o	o		o	o	o	o	o	o	o	o
99	beard	11	12	47	52	o		o	o	o		o	o	o	o			o					o	o	o	o	o	
	whiskers	5	4	55	44		o				o				o	o	o		o		o	o						o
	chin whiskers	1											o															
108	bone	18	17	51	48	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
112	tiger	14	13	51	48	o	o	o	o	o	o	o	o	o		o		o		o	o	o	o	o	o	o		o
	lion	2	1	66	33										o												o	
112	whiskers	6	2	75	25	o	o		o	o								o		o						o		
179	policeman	7	3	70	30	o	o	o	o	o				o	o					o	o					o		
	cop	6	7	46	53	o					o	o	o			o		o	o				o	o	o			o
	traffic policeman	2	1	66	33				o														o					
	soldier	3	1	75	25										o	o	o						o					
213	turtle	15	12	55	44	o	o	o	o	o	o	o	o	o	o	o	o	o		o	o	o	o	o	o	o		o
	terrapin	7	1	87	12		o	o	o				o		o			o							o			
	gopher		2																							o	o	
225	iris	13	3	81	18	o	o	o	o	o	o		o	o	o	o	o	o					o		o			
	flower	7	5	58	41	o			o				o		o	o			o		o		o			o		o
	gladiola	1	1	50	50										o									o				
311	woodpecker	10	9	52	47	o	o	o	o	o		o	o			o		o	o	o		o	o	o	o	o		o
	peckerwood	8	7	54	46				o	o	o	o	o	o	o		o				o		o		o			o
	woodchuck	1														o												
433	grasshopper	13	51	46	53	o	o	o				o	o	o	o	o		o	o	o	o	o	o	o	o	o	o	o
	antelope		1																				o					

TABLE 6

Animate Things (continued)

Item No.	Lexical Word	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution A 1	2	3	4	5	6	7	8	9	10	11	12	13	County Distribution B 20	21	22	23	24	25	26	27	28	29
464	dragon fly	7	7	50	50		o		o	o	o					o		o		o			o			o	o	
	snake doctor	6	4	60	40				o	o		o		o	o	o		o	o			o		o				
	snake feeder	5				o	o	o	o																			
	snake fly	1						o																				
	devil's fly	1															o											
	mosquito hawk		2																							o	o	
	gallinipper		1																									o
570	wrestling	16	11	59	40	o	o	o	o	o	o	o	o	o	o	o		o		o	o	o	o	o	o	o		o
	wrestlers	2	4	33	65		o		o										o				o	o				
587	june bug	11	12	48	52	o	o	o	o	o		o		o	o	o		o	o	o	o		o		o	o	o	o
699	(wasp's) nest	6	14	30	70		o			o	o		o		o		o		o		o	o	o	o	o	o	o	o
	hornet's nest	1							o																			
	durt dauber's nest	1												o														
	hive						o																					
699	wasps (above)																											
	waspers	1					o																					
680	lightning bug	18	17	51	48	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	fire fly	1					o																					
945	worm	17	14	54	45			o	o	o	o		o		o	o	o	o	o		o		o	o	o	o	o	o
	red worm	14	4	88	22	o	o	o	o	o			o	o	o	o	o	o	o	o					o		o	
	catalpa worm	1	4	20	80						o											o	o				o	
	bait	2	4	33	66	o												o	o				o		o			
	earthworm	1	3	25	75		o																o	o				o
	fishing worm	1	1	50	50		o																		o			
	eel worm		1																		o							
	grub worm	1						o																				
	angle worm	1	1	50	50				o														o					

TABLE 6

Animate Things (continued)

Item No.	Lexical Word	Occurrence No.		Pct.		County Distribution A													County Distribution B									
		A	B	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
	blood worm	1							o																			
	wiggler		2																	o							o	
1792	hog	13	11	54	45	o	o	o	o	o	o	o	o		o		o	o		o	o	o	o		o	o	o	
	pig	3	5	37	62				o					o		o							o	o		o		o
	shoat	1														o												
	sow	1					o																					
1792	slop	3				o	o			o																		
	apples	6	10	37	62				o		o			o	o		o	o		o	o	o	o	o				o
	corn		1																o									
1903	bear	19	2	48	51	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	cub	10	4	71	28	o	o	o	o		o		o	o		o		o	o	o								
1903	hornet's nest	6	9	40	60	o						o	o		o	o	o		o		o	o	o	o	o		o	
	bee hive	3	4	42	57		o	o								o				o				o	o			
	wasp's nest	1									o																	
	bumble bee nest	1											o															
6055	boy	14	13	51	48	o	o	o	o	o	o		o	o	o		o		o		o	o	o	o	o	o		o
	bully	2	2	50	50															o					o			
	ruffian	2						o	o																			
	brother	1	3	25	25								o							o			o	o				
8086	robber	6	2	75	25	o	o			o						o			o		o							
	bandit	1	3	25	25									o							o	o	o					
	hold-up man		2																				o	o				

Numerals: Two Names or More

Item No.	Lexical Word	A													B									
	County:	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
112	one twelve								o						o				o		o	o		
118	one eighteen	o			o	o						o			o	o			o	o	o	o		
135	one thirty five	o		o	o	o						o			o	o			o	o	o	o		
140	one forty				o															o	o	o		o
179	one seventy nine	o			o	o				o		o			o	o			o	o	o	o		
196	one ninety six	o		o	o	o				o		o							o	o	o	o		o
213	two thirteen	o		o	o	o			o	o		o		o	o	o		o	o	o	o	o	o	o
225	two twenty five	o		o	o	o			o	o		o	o	o	o	o		o	o	o	o	o	o	o
311	three eleven	o		o	o	o			o	o		o	o	o	o	o		o	o	o	o	o	o	o
312	three twelve	o		o	o	o			o	o		o			o	o		o	o	o	o	o	o	o
433	four thirty three	o		o	o	o				o		o	o		o	o		o	o	o	o	o	o	o
464	four sixty four	o		o	o	o				o		o		o	o	o		o	o	o	o	o	o	o
466	four sixty six	o		o	o	o				o		o		o	o	o		o	o	o	o	o	o	o
570	five seventy	o		o	o	o			o	o		o	o	o	o	o			o	o	o	o	o	o
587	five eighty seven	o		o	o	o			o	o		o		o	o	o		o	o	o	o	o	o	o
680	six eighty	o		o	o	o			o	o				o	o	o		o	o	o	o	o	o	o
699	six ninety nine	o		o	o	o			o			o		o	o	o		o	o	o	o	o	o	o
851	eight fifty one	o		o	o	o						o	o	o	o	o		o	o	o	o	o	o	o
945	nine forty five	o		o	o	o	o		o	o		o		o	o	o		o	o	o	o	o		o
1792	seventeen ninety two	o		o	o	o	o		o			o	o	o	o	o		o	o	o	o	o	o	o
6055	sixty fifty five	o		o	o	o			o	o	o			o		o		o	o		o	o	o	o
8086	eighty eighty six	o		o	o	o					o					o		o	o		o	o	o	o
112	one one two																			o				
118	one one eight																			o				
196	one nine six																			o				
312	three one two																							o
466	four six six								o															
699	six nine nine																					o		
851	eight five one								o		o													o
945	nine four five																						o	
1792	seventeen nine two										o													o
1903	nineteen three																							

TABLE 8

Numerals: Hundred and /n/

Item No.	Lexical Word	A													B									
	County:	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
108	h and eight				o	o	o				o	o	o	o			o	o	o		o		o	o
112	h and twelve				o	o	o				o	o	o	o			o	o	o	o	o		o	o
118	h and eighteen				o		o				o	o	o	o			o	o	o	o			o	o
135	h and thirty five				o		o		o		o	o		o			o	o	o				o	o
140	h and forty				o	o					o	o	o	o	o		o	o	o	o			o	
179	h and seventy nine				o		o				o	o	o	o				o	o	o			o	o
196	h and ninety six				o		o				o		o	o	o		o	o	o				o	o
108	one h and eight			o																o				
112	one h and twelve	o		o												o								
118	one h and eighteen			o																				
140	one h and forty	o		o												o			o					
179	one h and seventy nine			o																				
225	two h and twenty five						o				o						o		o					
311	three h and eleven						o				o								o					
312	three h and twelve				o		o				o						o		o					
433	four h and thirty three						o						o				o		o					
464	four h and sixty four						o						o				o		o					
466	four h and sixty six		o				o				o		o				o		o					
570	five h and seventy						o				o						o		o					
587	five h and eighty seven										o		o				o		o					
680	six h and eighty						o						o				o		o					
699	six h and ninety nine						o						o				o		o					
851	eight h and fifty one						o										o		o					
945	nine h and forty five										o		o				o		o					
1792	seventeen h and ninety two										o						o							
1903	nineteen h and three																o							
4203	forty two h and three																o							
6055	six thousand one h and fifty five			o																				

TABLE 9

Numerals: OH

Item No.	Lexical Word	A													B									
	County:	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29
1903	nineteen oh three	o		o	o	o	o		o			o	o	o	o	o		o	o	o	o	o	o	o
4203	forty two oh three	o		o	o	o	o		o	o	o	o	o	o	o	o		o	o	o	o	o	o	o
6055	six oh five five				o							o	o		o		o		o	o				
8086	eight oh eight six				o		o			o		o	o	o	o		o		o	o				o
108	one oh eight				o							o			o	o			o	o	o	o		
140	one four oh				o							o			o	o			o	o	o	o		

TABLE 10

Regionally Similar Vowels and Diphthongs

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	B	Pct. A	B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	B
6055	cream KRIM	I	7	2	77	22	o	o	o	o	o		o	o		o				o						o	o	o		+1	+2
312	three QRI	I	12	11	48	44	o	o	o	o	o	o		o	o	o	o		o	o	o	o		o	o	o	o	o	o		+2
8086	moon MU*N	U*	7	8	49	55			o				o	o	o		o	o	o					o	o	o			o	+1	+1
1792	two TU*	U*	12	15	48	60	o	o	o	o	o	o		o		o	o	o	o	o	o	o	o	o	o	o	o	o	o		
4203	chicken C*I*K8N	I*	7	4	63	36	o		o	o		o	o				o		o			o		o			o		o		
1792	pig PI*G	I*	3	5	39	65				o					o		o							o	o		o		o		
8086	pistol PI*ST8L	I*	3	4	42	56		o	o								o					o		o		o			o		
464	sixty SI*KSDI*	I*	5	16	32	67	o		o	o	o								o	o	o	o	o	o	o	o		o	o	+2	+3

TABLE 10

Regionally Similar Vowels and Diphthongs (continued)

Item No.	Cited Word Coded	Phon. Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
135	spigot SPI*G8T																														
		I*	2	4	33	66				o							o					o			o	o		o			
6055	boy BO*I*																														
		O*I*	10	6	63	36	o	o	o	o	o	o	o	o	o			o						o		o	o		o		
		OI*	1	1	50	50										o									o						

TABLE 11

Regionally Variable Vowels and Diphthongs

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Pct. A	Pct. B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
407	bench																														
	BE*NC*																														
		I*	1	1	50	50											o							o							
		A*	1	2	33	66										o							o					o		+1	
851	fence																														
	FE*NS																														
		E*	4	1	80	20				o					o									o	o	o			o	+1	+6
		I*	5	2	70	30		o			o						o	o	o						o		o				
		I*8	2	1	66	33		o	o												o										
699	nest																														
	NE*ST																														
		E*	1	4	20	80		o		o										o		o		o		o		o		+1	+2
		A*	1									o																			
		I*		2																				o	o						+2
		E*I*	2	3	40	60			o		o					o											o		o	+1	
311	red-head(ed)																														
	RE*D HE*DI*D		13	10	51	49		o	o	o	o				o	o		o	o			o		o				o	o	+4	
	RI*D																		o												
	RA*D											o																			
945	red																														
		E*I*	3					o							o	o					o										+1
312	twelve																														
	TWE*8LV																														
		E*	11	4	77	28	o		o	o	o	o		o	o	o	o		o		o	o		o	o	o		o			+2
		I*	1	4	20	80		o												o				o			o		o		
213	terrapin																														
	TE*R8P8N																														
		E*	4					o	o	o				o		o														+1	
		A*	2	1	75	25								o		o			o							o					

TABLE 11

Regionally Variable Vowels and Diphthongs (continued)

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
466	wrench																														
	RE*NC*																														
		E*	4	7	36	63										o	o	o	o			o		o	o			o		+2	+5
		I*	5	6	45	54			o	o			o	o						o				o	o	o	o			+2	+4
		A*	1	3	25	75											o							o							+1
		E*I*	3	2	60	40	o	o			o											o								+2	+1
		A*I*	2	1	66	33						o				o					o										
8086	bandit																														
	BA*NDI*T		1	2	33	66									o							o		o							
		A*																													
464	dragon																														
	DRA*G8N																														
		A*	7	6	56	48		o		o	o	o					o		o							o	o				
8086	handkerchief																														
	HA*N*K8C*8F																														
		A*	1							o	o		o									o			o	o				+2	+3
8086	man																														
	MA*N																														
		A*	5	7	40	60							o		o		o		o					o		o	o	o	o		+1
		A*I*		1																				o	o						
8086	mask																														
	MA*SK																														
		A*	5	7	40	60		o	o			o					o	o			o	o		o			o	o	o	+1	+1
		A*8								o														o							
		E8	1	1	50	50				o														o							
407	rack																														
	RA*K																														
		A*	3	2	60	40							o	o	o					o									o		+2

TABLE 11

Regionally Variable Vowels and Diphthongs (continued)

Item No.	Cited Word Coded	Phon. Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
8086	eight eighty ET EDI*																														
		E	17	22	45	55	o		o	o	o	o		o	o	o	o		o	o	o	o		o	o	o	o	o	o		
851	rail RE8L																														
		E	7	2	77	22				o		o	o		o	o						o	o	o							+1
		EI*								o														o	o	o		o	o	+1	+6
6055	skates SKETS																														
		E	3	7	30	70				o			o	o				o			o	o		o	o	o	o	o	o	+1	+2
		EI	6	3	66	33			o		o	o			o	o	o		o	o				o					o	+1	
464	snake SNEK																														
		E	7	8	47	53	o		o	o	o		o		o	o	o		o	o	o		o		o						
79	foot FUT																														
		U	14	12	56	48	o	o		o	o	o	o	o	o	o	o	o	o	o	o	o		o	o	o	o	o	o		
		U*	3	1	25	75			o					o			o									o					
311	wood WUD																														
		U	15	12	59	48		o	o	o	o	o	o	o		o	o	o	o	o	o	o	o	o	o	o	o		o	+2	+1
		UI*	3				o							o	o															+1	
6055	cone KON																														
		O	3	9	24	72	o	o					o							o	o	o		o	o			o	o		
		OU*	4	2	68	34			o	o		o							o						o	o					

TABLE 11

Regionally Variable Vowels and Diphthongs (continued)

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
1792	hog HO*G																														
		O*	8	7	56	49	o	o	o	o	o		o			o				o		o	o	o		o		o			
		A		3																	o					o	o				
		AO*	4	1	80	20						o		o					o										o		
135	faucet FO*SI*T																														
		O*	6	5	54	45		o	o				o			o	o	o						o					o		
		A	6	5	54	45				o	o	o		o		o				o	o				o	o					
945	catalpa K8O*TO*P8																														
		O*	1	4	20	80						o											o	o	o			o			
464	hawk HO*K																														
		O*		2																								o	o		
8086	automobile O*D8MOBI81																														
		O*	1	3	25	75	o																	o	o						
		O*8		1																									o		
		A		1																							o				
464	fly FLAI*																														
		AI*	1	3	25	75											o							o			o				
		A	4	1	80	20		o			o								o							o					
		A*	7	6	56	48		o		o	o	o					o		o		o			o		o	o				
6055	ice AI*S																														
		AI*	4	7	36	63				o					o	o	o		o		o	o		o	o	o			o	+1	
		AI											o	o						o						o				+2	+2
		A	7	2	77	22	o	o	o	o	o			o		o											o	o			
		A*	1	2	33	66						o													o	o					

TABLE 11

Regionally Variable Vowels and Diphthongs (continued)

Item No.	Cited Word Coded Phon. Syll.	Occurrence				County Distribution																							Items Not Computed	
		No. A	No. B	Pct. A	Pct. B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	A	B
680	lightning LAI*TNI*N																													
	AI*		9																		o		o		o	o	o			
	AI	3	2	60	40			o	o	o									o					o						
	A*	4	1	80	20	o					o			o				o		o										
225	flower FLAU8R																													
	AU	3	8	37	63			o	o							o				o	o	o	o			o				
	A	3	1	75	25	o			o				o						o											
	A*	1									o																			
	O*	1													o															
20	towels TAU*8LZ																													
	AU*8	2	11	16	88								o					o			o	o	o	o	o	o		o		
	AU*						o		o	o						o	o													+5
	A*8	3	1	75	25						o			o	o				o											

TABLE 11

Regionally Variable Vowels and Diphthongs (continued)

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
172	nose NOU*Z																														
		OU*	12	11	48	44	o	o	o	o		o	o	o	o	o			o		o	o	o	o	o	o	o	o			
13	stove STOU*V																														
		OU*	16	11	64	44	o	o	o	o	o	o	o	o	o	o	o	o		o	o	o	o	o	o	o	o				
680	bug BXG																														
		X	11	5	66	33	o	o		o	o		o			o	o		o		o	o			o		o		o	+4	+1
		U	6	8	42	56			o			o		o	o			o		o			o	o	o	o				+3	
		UI*		2																				o				o			
1903	cub KXB																														
		X	6	1	84	14	o	o	o	o				o			o			o											
		X8	3	1	75	25				o		o			o						o										
8086	gun GXN																														
		X	6	7	48	56	o		o			o			o	o	o				o			o	o		o		o		
		U		1																o											
699	wasp WASP																														
		A	3	5	39	65			o	o	o								o					o	o		o	o		+1	+1
		O*	4	7	36	63	o		o		o					o		o		o	o		o	o		o			o	+2	+1
4203	salt SO*LT																														
		O*	11	6	66	33	o	o	o	o	o		o	o		o	o	o		o	o		o	o				o	o	+2	
		O*U	2	4	33	66								o			o							o	o				o		
407	saw SO*																														
		O*	5	11	30	66	o			o					o			o			o	o	o	o	o	o		o	o	+3	+2

TABLE 12

Regional Variables with /r/

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
106	ear I*R																														
		I*R	12	4	72	24	o	o	o			o		o	o	o	o	o									o	o	o		
		IR	3	2	60	40				o	o										o		o								
		I*8	2	7	22	77							o						o			o	o	o	o	o					
		I8		2																				o	o						
99	beard BI*RD																														
		I*R	4	4	50	50			o				o			o			o					o			o	o			
		IR	7	1	91	13	o			o	o			o	o									o	o	o					
		I*8																						o	o						
		I8																													
15	mirror MI*R8R																														
		I*	12	15	45	55	o	o	o	o	o	o	o	o			o	o	o	o	o	o	o	o	o	o	o	o	o	+1	
		E*	2												o	o															
464	feeder FID8R																														
		I	4				o		o	o																					
1903	bear BE*8R																														
		E*8R	4	4	50	50	o			o				o		o						o		o					o		
		E8R	4						o		o			o	o																
		A*8R	4	1	80	20				o		o					o						o								
		E*18	1	5	17	85							o											o	o	o					
		A*18	1	2	33	66													o						o	o					
311	-pecker- PE*K8R																														
		E*	15	13	54	46	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		o		

TABLE 12

Regional Variables with /r/ (continued)

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
4203	pepper PE*P8R																														
		E*8R	11	5	66	33	o	o	o	o	o			o		o	o	o			o		o	o			o		o		
		E*8	1	5	17	85										o				o				o	o						
4203	shaker S*EK8R																														
		E-R	8	6	56	42	o	o	o	o	o					o	o	o		o				o			o	o	o	+1	
	S*EK																														
		E	4	4	50	50				o			o	o							o		o	o							
945	forty FO*RDI*																														
		O*R	8	4	64	32	o		o	o	o			o	o	o		o		o				o			o		o	+1	
		O*8	3	7	30	70						o					o		o			o	o	o	o			o			
407	horse HO*RS																														
		O*	3	4	40	60	o	o	o	o	o	o		o		o			o					o	o	o			o	+9	+4
		O	1	2	33	66				o					o					o	o									+1	
464	four FO8R																														
		08	1	9	10	90													o	o		o		o	o	o			o		
		08R	5	3	65	39	o		o			o			o		o				o							o	o		
		OR	2	2	50	50									o		o										o		o		
		08	1	4	20	80													o	o				o	o			o	o		+2
		O		3				o				o						o				o	o	o	o				o	+3	+3
		OR	3				o			o																					
		O*R									o																			+2	
4203	turkey TXRKI*																														
		X*R	12	9	57	43		o	o	o			o	o	o	o	o	o		o	o	o	o	o	o			o	o		
		UI*		3																				o		o					

TABLE 12

Regional Variables with /ɍ/ (continued)

Item No.	Cited Word Coded	Phon. Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
213	turtle TXRT8L																														
		X	11	6	65	35	o	o	o	o	o	o	o	o	o		o	o	o		o		o		o		o		o	+1	
		UI*		6																		o		o		o					+1
945	worm WXRM																														
		X	5	2	70	30		o				o	o	o		o	o	o		o	o		o	o	o		o	o	o	+3	+5
		UI*																						o		o					+3
6055	roller ROL8R																														
		O-R	3					o		o				o																	
		O8		1															o			o				o				+1	+1
8086	robber RAB8R																														
		A	5	1	85	15	o	o			o						o											o			
		O*		1																								o			
135	water WO*D8R																														
		O*	4	12	27	73			o	o			o						o	o	o	o	o	o	o	o	o		o		
		O*+R						o																				o	o	+1	+2
		A	9				o			o	o		o		o		o														
464	doctor DAKT8R																														
		A-R	5	2	70	30					o		o		o	o	o						o		o						
		A8	2	2	50	50				o									o	o											
851	barb(ed) BARB																														
		AR	2	1	66	33									o		o												o		
		A	5	7	40	60	o				o	o	o	o						o				o	o	o	o			+1	+2
		O*8	2							o																					
																o	o	o	o		o	o	o	o				o	o	+1	+3

TABLE 12

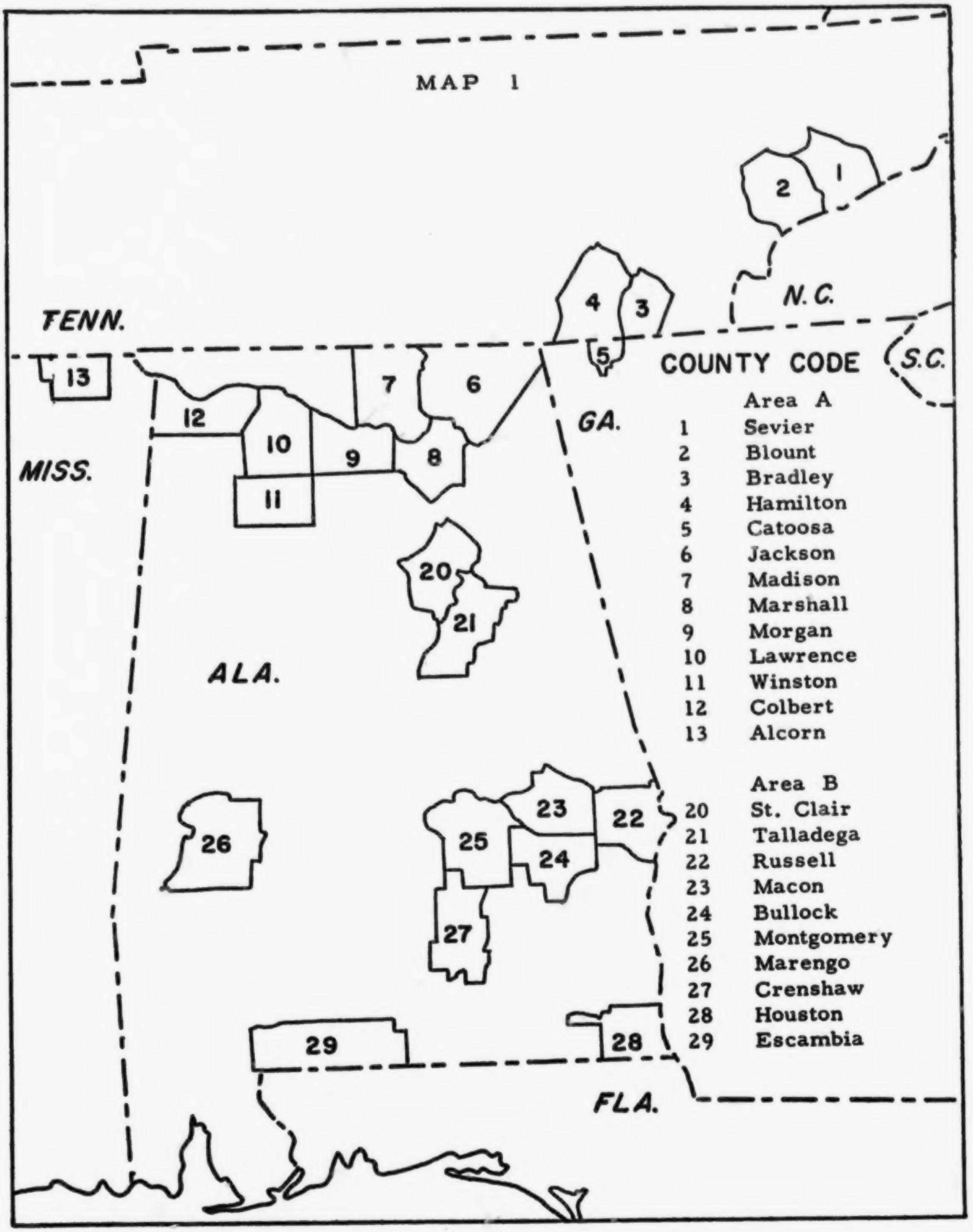
Regional Variables with /r/ (continued)

Item No.	Cited Word Coded Phon.	Syll.	Occurrence No. A	Occurrence No. B	Occurrence Pct. A	Occurrence Pct. B	County Distribution 1	2	3	4	5	6	7	8	9	10	11	12	13	20	21	22	23	24	25	26	27	28	29	Items Not Computed A	Items Not Computed B
167	arm ARM																														
		AR	3								o			o	o																
		O*8	3	1	75	25								o			o											o			
		A8	5							o		o				o	o														
		AM		3																o			o		o						
		O*M	1	7	13	97													o			o		o		o	o				
8086	stars STARZ																														
		A+R		1																									o		
		A8+R	1												o																
		A8		1																				o							
		A														o														+1	
		O*		2																						o	o				
		O*8+R	2						o									o													
		O*8																						o							+1
8086	car KA8R																														
		A+R	4				o									o	o														
		A	2												o	o															
		O*+R	5	1	85	15		o	o	o		o						o											o		
		O*	1	4	20	80							o										o		o	o	o				
		O*8																		o		o			o					+1	+2
312	pliers PLAI*RZ																														
		A8R	12	7	60	35		o	o	o	o	o	o	o		o	o	o		o	o	o		o	o		o	o			
		A*8R	2	3			o								o								o						o	+2	+3
		A8	1	4	20	80													o						o	o	o				
312	wire WAI*R																														
		AI*		1																				o							
		A8	6	1	84	14	o	o	o	o		o				o											o			+1	

Table 13

Area and Grand Totals of Parts of Speech by Slot

Part of Speech	In Area	Slot Labels										
		A5	A4	A3	A2	A1	Base	C1	C2	C3	C4	C5
Quantifier	A	69	78	106	70	30		4	6	3	2	3
	B	80	104	110	53	34		5	7	1	1	4
	Total	149	182	216	123	64		9	13	4	3	7
Determiner (Article)	A	6	14	12	47	110		5	28	9	11	13
	B	12	19	16	65	107		10	42	8	14	13
	Total	18	33	28	112	217		15	70	17	25	26
Auxiliary	A	10	8	30	66	9		0	3	3	2	4
	B	11	9	38	71	2		1	8	4	14	5
	Total	21	17	68	137	11		1	11	7	16	9
Conjunction	A	13	16	11	7	1		32	1	6	9	6
	B	12	20	10	12	0		29	1	9	6	11
	Total	25	36	21	19	1		61	2	15	15	17
Preposition	A	0	3	1	10	3		18	9	9	13	5
	B	4	0	5	11	10		33	15	12	13	15
	Total	4	3	6	21	13		51	24	21	26	20
Pronoun	A	8	3	6	4	1		14	12	10	4	5
	B	4	3	6	0	1		11	13	20	10	6
	Total	12	6	12	4	2		25	25	30	14	11
Relative	A	0	1	1	0	0		0	1	0	2	1
	B	0	0	0	0	0		4	4	0	2	1
	Total	0	1	1	0	0		4	4	0	4	2
Adverb	A	1	2	1	0	0		0	3	0	0	1
	B	2	0	2	1	0		3	4	4	6	3
	Total	3	2	3	1	0		3	7	4	6	4

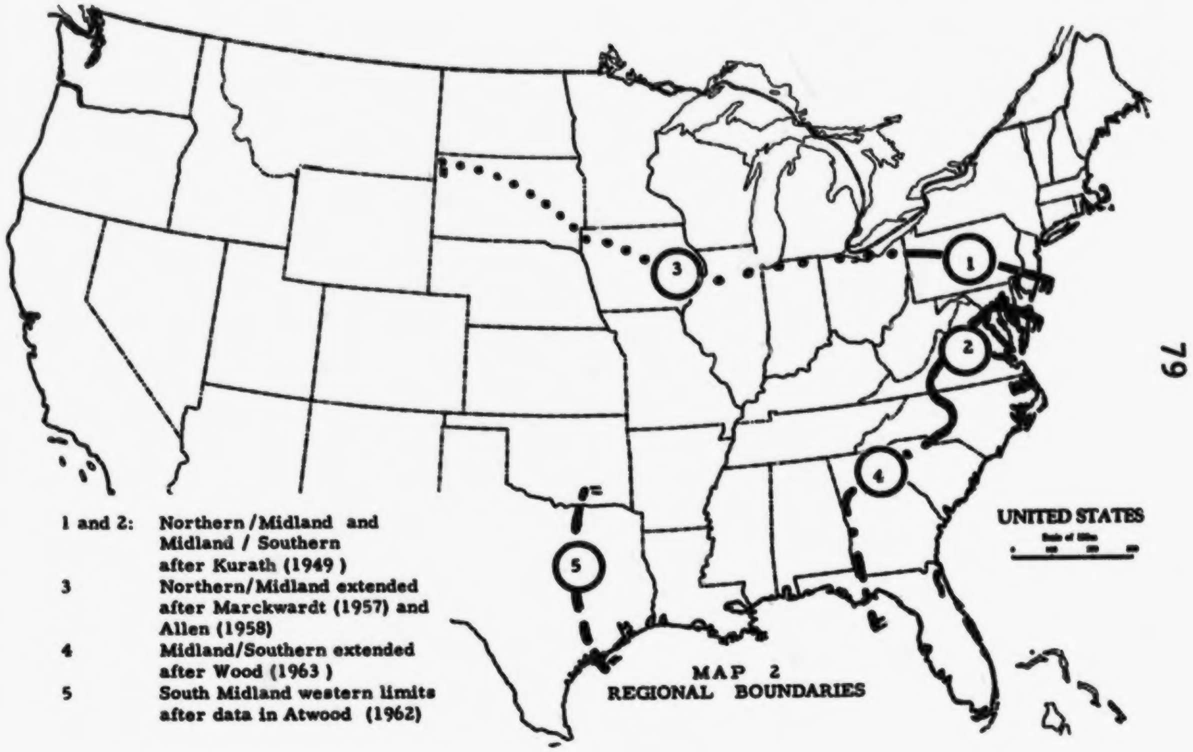


MAP 1

TENN.
MISS.
ALA.
GA.
N.C.
S.C.
FLA.
1
2
3
4
5
6
7
8
9
10
11
12
13
20
21
22
23
24
25
26
27
28
29

COUNTY CODE

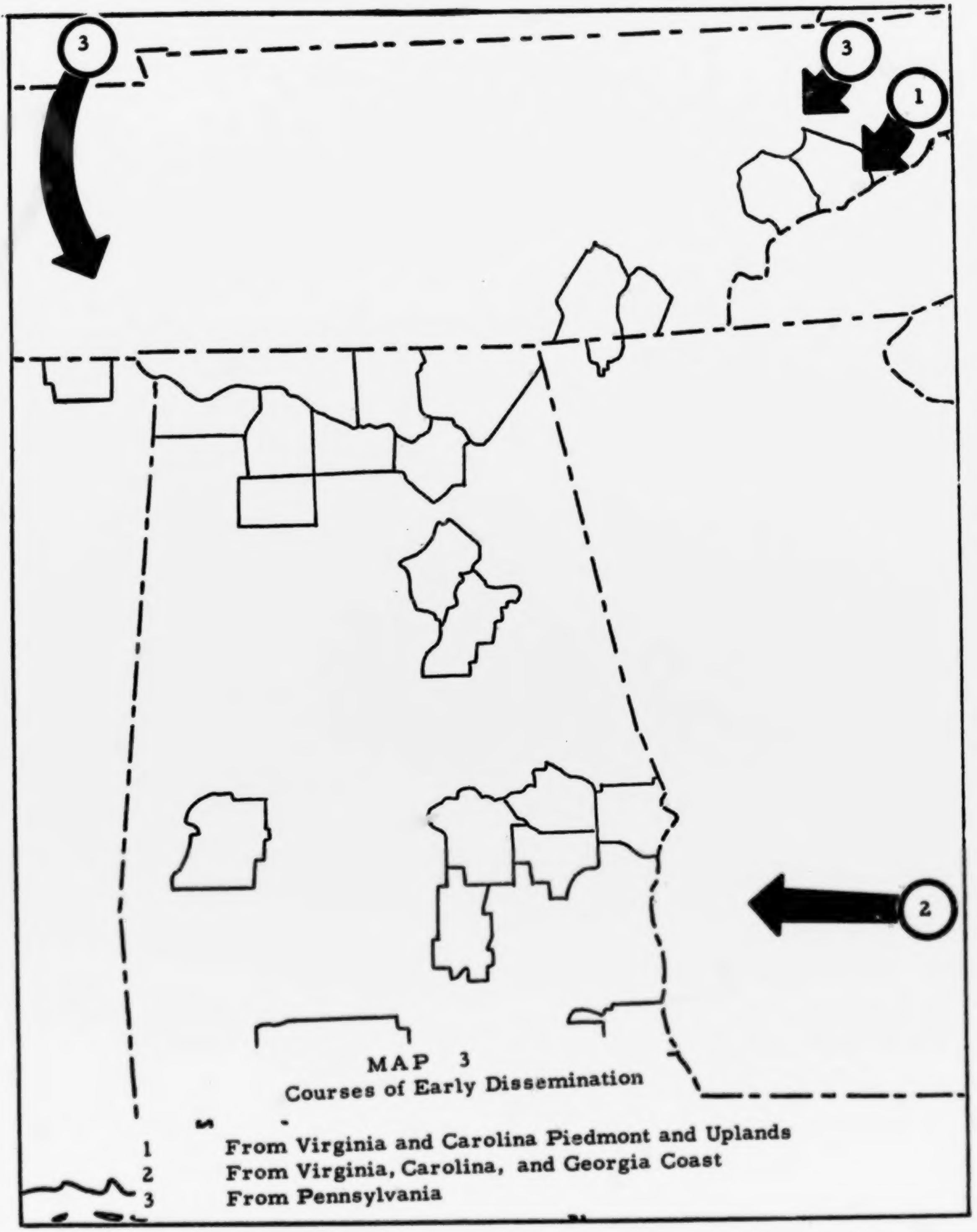
	Area A
1	Sevier
2	Blount
3	Bradley
4	Hamilton
5	Catoosa
6	Jackson
7	Madison
8	Marshall
9	Morgan
10	Lawrence
11	Winston
12	Colbert
13	Alcorn
	Area B
20	St. Clair
21	Talladega
22	Russell
23	Macon
24	Bullock
25	Montgomery
26	Marengo
27	Crenshaw
28	Houston
29	Escambia



UNITED STATES
1
2
3
4
5

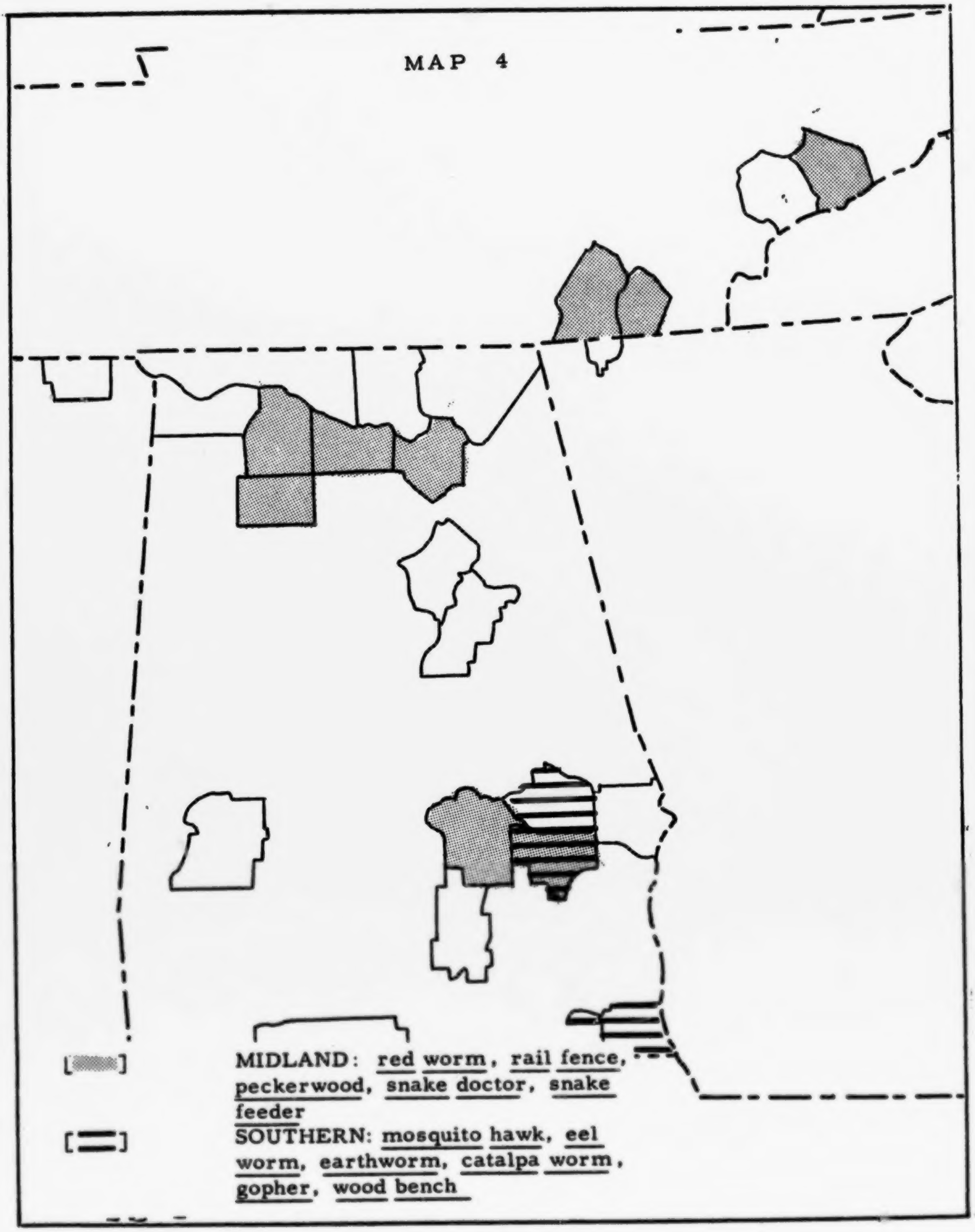
1 and 2:	Northern/Midland and Midland / Southern after Kurath (1949)
3	Northern/Midland extended after Marckwardt (1957) and Allen (1958)
4	Midland/Southern extended after Wood (1963)
5	South Midland western limits after data in Atwood (1962)

MAP 2
REGIONAL BOUNDARIES



MAP 3
Courses of Early Dissemination

1 From Virginia and Carolina Piedmont and Uplands
2 From Virginia, Carolina, and Georgia Coast
3 From Pennsylvania

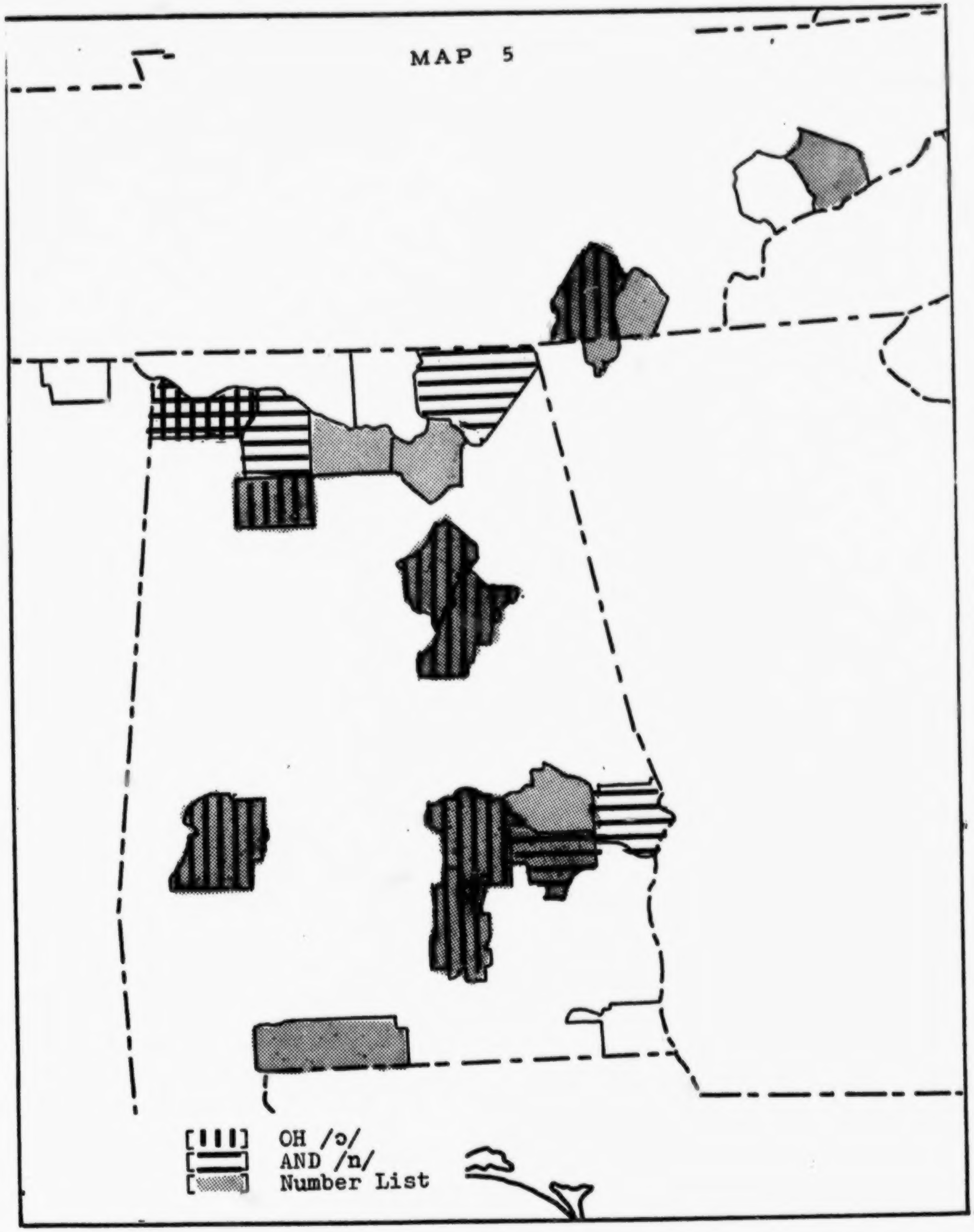


MAP 4

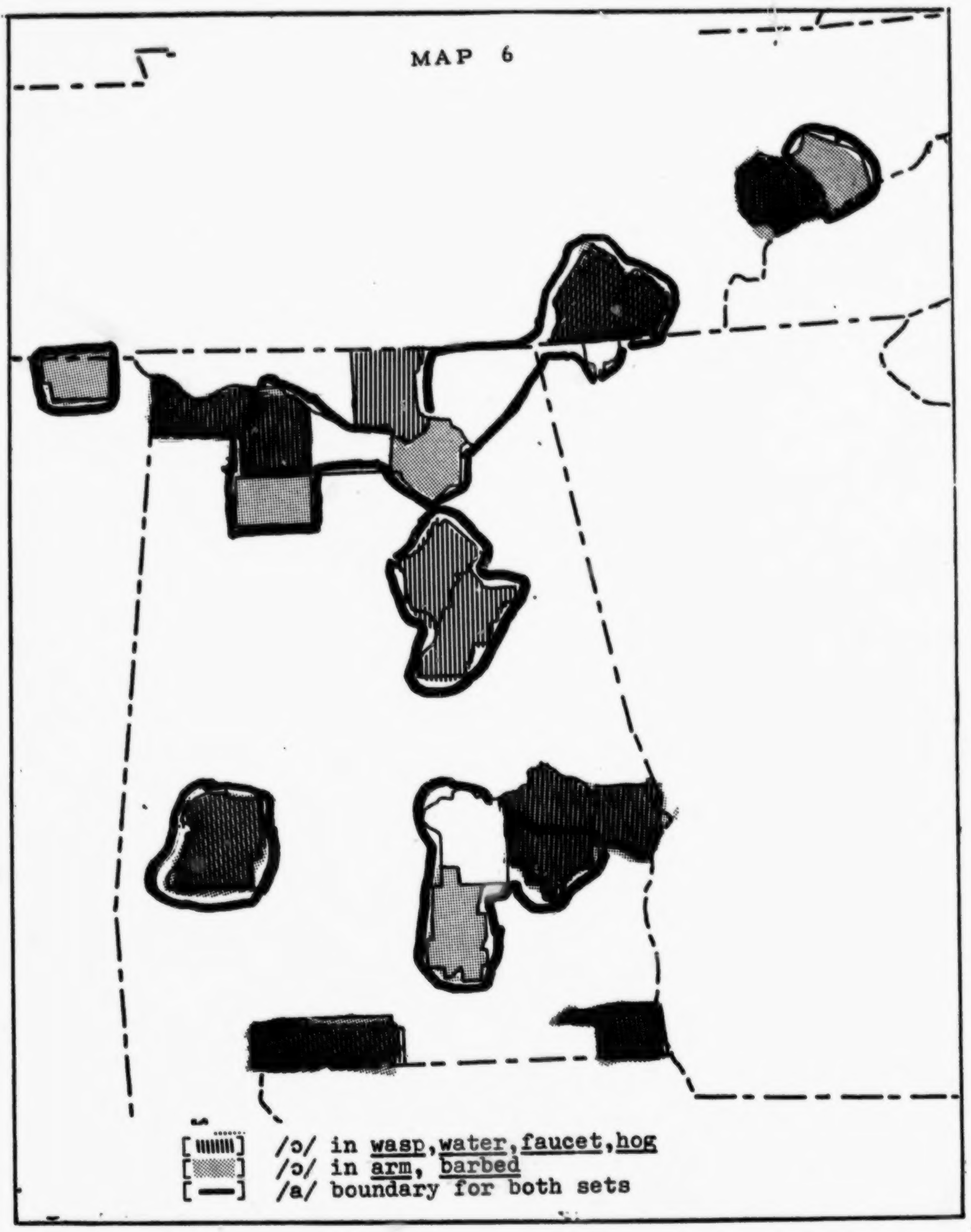
▒ MIDLAND: red worm, rail fence, peckerwood, snake doctor, snake feeder

☰ SOUTHERN: mosquito hawk, eel worm, earthworm, catalpa worm, gopher, wood bench

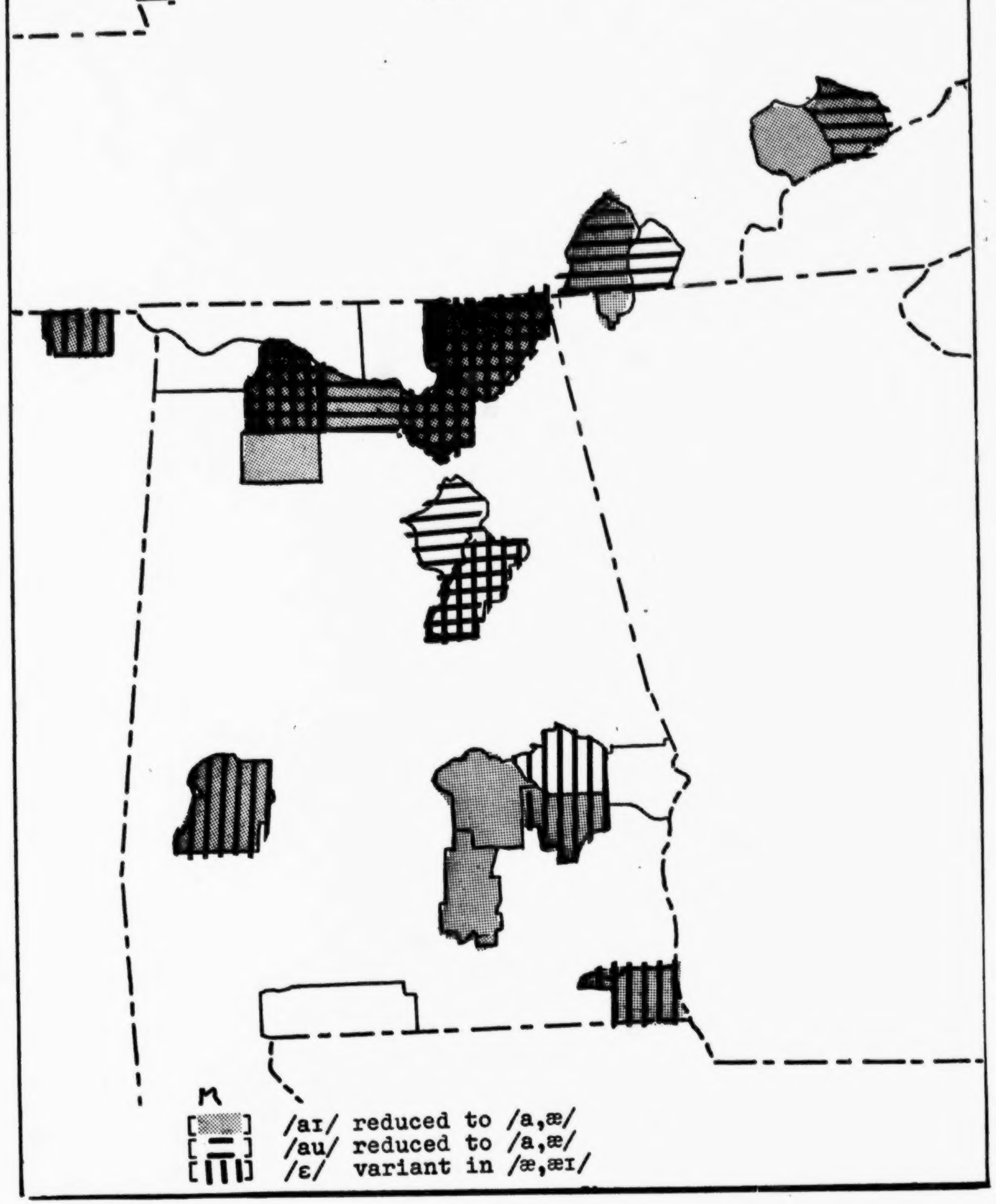
MAP 5


[▥] OH /ɔ/
[▤] AND /n/
[▨] Number List

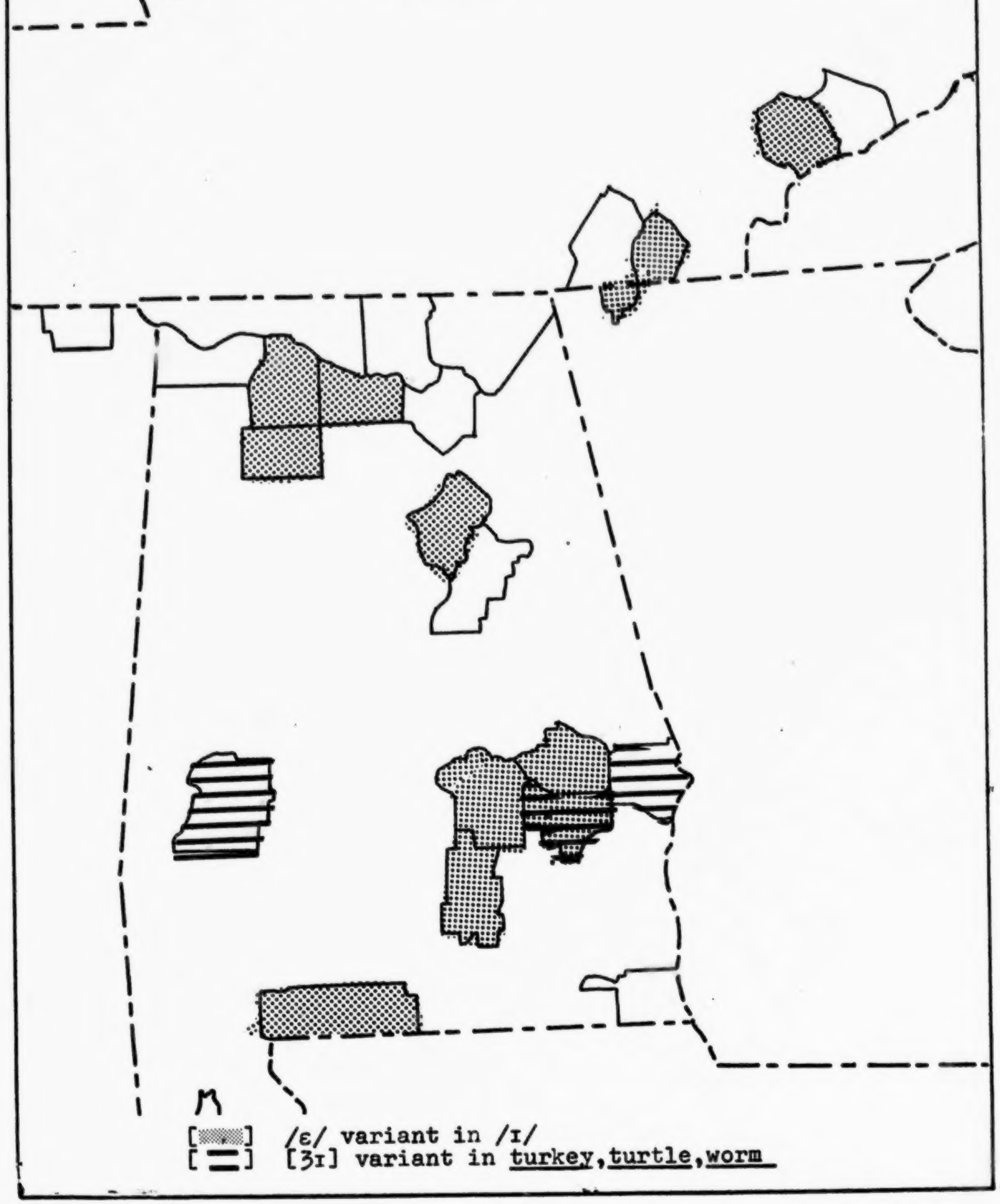
MAP 6


[▥] /ɔ/ in wasp, water, faucet, hog
[▨] /ɔ/ in arm, barbed
[—] /a/ boundary for both sets

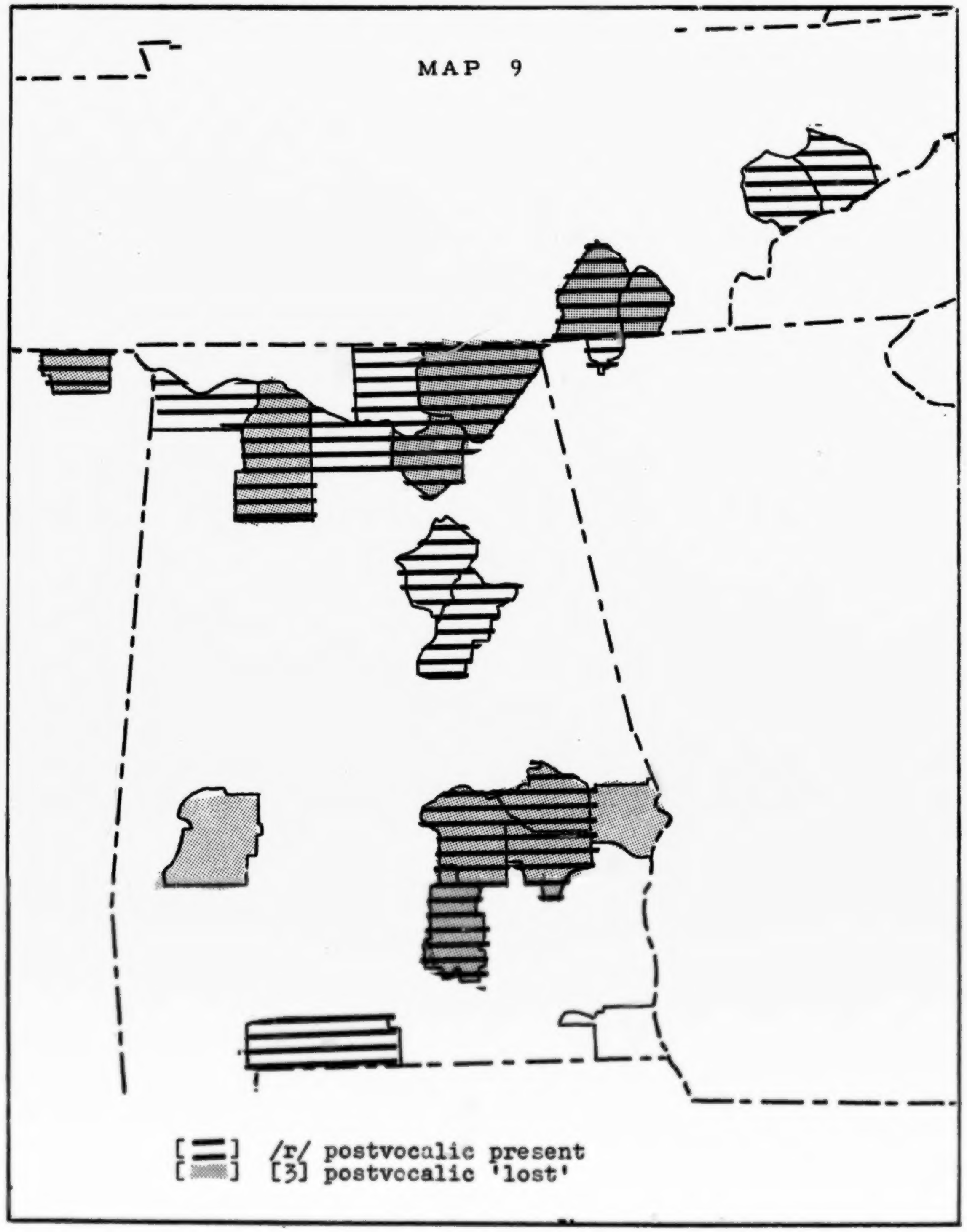
MAP 7


M
[▨] /aɪ/ reduced to /a,æ/
[☰] /au/ reduced to /a,æ/
[▥] /ε/ variant in /æ,æɪ/

MAP 8


M
[▨] /ε/ variant in /ɪ/
[☰] [ɜɪ] variant in turkey,turtle,worm

MAP 9


[▤] /r/ postvocalic present
[▒] [ɜ] postvocalic 'lost'

```
    1903                    SYN            SYNTAX
BEAR        NEST        CUB                                                     3
A011S1903  1   SEE         02004          02010           04004
A011S1903   NINETEEN    -   OH          -  THREE           A                  10
A011S1903   BEAR            AND            A               HORNET*S    -      20
A011S1903   NEST            WITH           A               BABY               30
A011S1903   CUB             ..                                                40
A021S1903  1   SEE         03008
A021S1903   ONE         -   THOUSAND    -  NINE         -  HUNDRED     -      10
A021S1903   THREE           BEARS          STEALING        HONEY              20
A021S1903   FROM            A              BEEHIVE         .                  30
A021S1903   BEAR            STANDING       UP              .                  40
A021S1903   HINTQ           .              A               CUB                50
A021S1903   ..                                                                60
A031S1903  1   SEE
A031S1903   NINETEEN    -   OH          -  THREE           IS                 10
A031S1903   A               BEAR           AND             HER                20
A031S1903   CUB             WHICH          ARE             TRYING             30
A031S1903   TO              GET            INTO            A                  40
A031S1903   BEEHIVE         ..                                                50
A041S1903  1   SEE
A041S1903   NINETEEN    -   OH          -  THREE           IS                 10
A041S1903   BEARS           AFTER          BEES            .                  20
A041S1903   HINTQ           .              THE             MOTHER             30
A041S1903   BEAR            AND            THE             CUB                40
A041S1903   ..                                                                50
A042W1903  1   SEE
A042W1903   NINETEEN    -   OH          -  THREE           IS                 10
A042W1903   A               BEAR           TRYING          TO                 20
A042W1903   GET             SOME           HONEY           OUT                30
A042W1903   OF              A              HORNET*S        NEST               40
A042W1903   .               HINTQ          .               CUB                50
A042W1903   ..                                                                60
A051S1903  1   SEE
A051S1903   NINETEEN    -   OH          -  THREE           IS                 10
A051S1903   A               BIG            BEAR            AND                20
A051S1903   A               SMALL          BEAR            ..                 30
A061E1903  1   SEE         03006
A061E1903   NINETEEN    -   OH          -  THREE           IS                 10
A061E1903   AN              OLD            BEAR            INTO               20
A061E1903   A               WASP*S      -  NEST            OR                 30
A061E1903   SOME            KIND           OF              .                  40
A061E1903   SOMETHING       .              AND             A                  50
A061E1903   LITTLE          BABY           CUB             ASTANDING          60
A061E1903   DOWN            BY             HER             ..                 70
A071R1903  1   SEE
A071R1903                   BEAR           .               BABY               10
A071R1903   BEAR            .              THAT/S          THE                20
A071R1903   HORNET*S    -   NEST           ..                                 30
A081N1903  1   SEE
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A081N1903   NINETEEN    -   OH          -   THREE          IS                10
A081N1903   A               BIG             BEAR           AFTER             20
A081N1903   THE             HORNET*S    -   NEST           .                 30
A081N1903   HORNETS         .               AND            THEN              40
A081N1903   THE             CUB             ..                               50
A082G1903  1   SEE          05004           05008
A082G1903                   HINTW           .              THAT/S            10
A082G1903   A               BEAR            .              HINTQ             20
A082G1903   .               IT/S            CATCHING       HONEY             30
A082G1903   .               IT/S            INTO           A                 40
A082G1903   BUMBLE      -   BEE         -   NEST           ..                50
A091N1903  1   SEE
A091N1903                   A               BEAR           GETTING           10
A091N1903   HONEY           FROM            THE            BEES              20
A091N1903   .               OFF             THE            TREE              30
A091N1903   .               AND             THE            CUB               40
A091N1903   BEAR            DOWN            AT             HER               50
A091N1903   FEET            ..                                               60
A102G1903  1   SEE
A102G1903   NINETEEN    -   THREE           IS             A                 10
A102G1903   BEAR            TRYING          TO             GET               20
A102G1903   SOME            .               AND            A                 30
A102G1903   LITTLE          BEAR            .              TRYING            40
A102G1903   TO              GET             SOME           HONEY             50
A102G1903   OUT             OF              A              HORNET*S     -    60
A102G1903   NEST            IT              LOOKS          LIKE              70
A102G1903   ..                                                               80
A111N1903  1   SEE
A111N1903   NINETEEN    -   OH          -   THREE          A                 10
A111N1903   BEAR            WITH            THE            CUB               20
A111N1903   ROBBING         THE             HORNET*S    -  NEST              30
A111N1903   .               I               DON/T          BELIEVE           40
A111N1903   THAT            THROUGH         ..                               50
A112G1903  1   SEE
A112G1903                   PIGS            .              HINTW             10
A112G1903   .               BEARS           IN             A                 20
A112G1903   BEEHIVE         ..                                               30
A121R1903  1   SEE
A121R1903   NINETEEN    -   OH          -   THREE          TWO               10
A121R1903   BEARS           .               ONE            BEAR              20
A121R1903   TRYING          TO              GET            AHOLD             30
A121R1903   OF              A               HORNET*S    -  NEST              40
A121R1903   ..                                                               50
A131X1903  1   SEE
A131X1903   NINETEEN    -   OH          -   THREE          IS                10
A131X1903   THE             BEAR            WITH           HER               20
A131X1903   CUB             AND             THEY           ARE               30
A131X1903   ROBBING         THE             HONEY          BEE               40
A131X1903   OF              HIS             HONEY          ..                50
B201X1903  1   SEE
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B201X1903  NINETEEN    -   OH          -   THREE          A                 10
B201X1903  BEAR            AND             A              CUB               20
B201X1903  BEAR            .               THE            OLD               30
B201X1903  BEAR            AND             THE            CUB               40
B201X1903  BEAR            AND             SHE/S          TRYING            50
B201X1903  TO              ROB             HORNET*S   -   NEST              60
B201X1903  .               AND             SHE/S          FIXING            70
B201X1903  TO              GET             INTO           BUSINESS          80
B201X1903  FOOLING         WITH            THAT           HORNET/S     -    90
B201X1903  NEST            ..                                              100
B211S1903  1   SEE
B211S1903  NINETEEN    -   OH          -   THREE          SOME              10
B211S1903  BEARS           ROBBING         A              BEEHIVE           20
B211S1903  .               HINTQ           .              MOTHER            30
B211S1903  BEAR            AND             THE            CUB               40
B211S1903  ..                                                               50
B332M1903  1   SEE
B221N1903  NINETEEN    -   HUNDRED     -   AND        -   THREE             10
B221N1903  IS              A               BEAR           CLIMBING          20
B221N1903  UP              .               HE             THINKS            30
B221N1903  HE/S            GETTING         HONEY          BUT               40
B221N1903  HE              HAS             STRUCK         A                 50
B221N1903  HORNET*S    -   NEST            AND            HE/S              60
B221N1903  NOT             GOING           TO             GET               70
B221N1903  MUCH            HONEY           THERE          .                 80
B221N1903  I               DON/T           BELIEVE        THOSE             90
B221N1903  ARE             HONEY           BEES           .                100
B221N1903  THAT/S          A               HORNET/S   -   NEST             110
B221N1903  ..                                                              120
B231R1903  1   SEE
B231R1903  NINETEEN    -   OH          -   THREE          BEAR              10
B231R1903  ROBBING         HORNET*S    -   NEST           ..                20
B241N1903  1   SEE
B241N1903  ONE         -   NINE        -   OH         -   THREE             10
B241N1903  BEARS           STANDING        UNDER          THE               20
B241N1903  TREE            EATING          HORNET*S   -   NEST              30
B241N1903  ..
B242N1903  1   SEE
B242N1903  NINETEEN    -   OH          -   THREE          IS                10
B242N1903  A               BIG             TALL           BEAR              20
B242N1903  AND             A               SMALL          BEAR              30
B242N1903  AND             A               .              THAT              40
B242N1903  IS              A               HORNET*S   -   NEST              50
B242N1903  .               THE             BIG            BEAR              60
B242N1903  SEEMS           TO              BE             GOING             70
B242N1903  TO              OPEN            IT             ..                80
B243N1903  1   SEE
B243N1903  ONE         -   NINE        -   OH         -   THREE             10
B243N1903  WE              HAVE            A              COUPLE            20
B243N1903  OF              BEAR            .              ONE               30
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B243N1903   OF               THEM            HAS              FOUND          40
B243N1903   HIM              A               HONEY            COMB           50
B243N1903   AND              HE/S            TRYING           TO             60
B243N1903   GET              THE             HONEY            OUT            70
B243N1903   OF               IT              ..                              80
B244N1903  1   SEE
B244N1903   NINETEEN    -    OH         -    THREE            IS             10
B244N1903   TWO              BEARS           .                ONE            20
B244N1903   OF               THEM            IS               BREAKING       30
B244N1903   INTO             A               HORNET*S    -    NEST           40
B244N1903   ..                                                               50
B251N1903  1   SEE
B251N1903   NINETEEN    -    OH         -    THREE            IS             10
B251N1903   TWO              BEARS           .                THE            20
B251N1903   BIG              BEAR            IS               GOING          30
B251N1903   INTO             A               HORNET*S    -    NEST           40
B251N1903   ..                                                               50
B252N1903  1   SEE
B252N1903   NINETEEN    -    OH         -    THREE            PAPA           10
B252N1903   BEAR             AND             A                MAMA           20
B252N1903   BEAR             GETTING         HONEY            FROM           30
B252N1903   THE              BEEHIVE         AND              THE            40
B252N1903   BEES             FLYING          AWAY             ..             50
B261W1903  1   SEE
B261W1903   NINETEEN    -    OH         -    THREE            TWO            10
B261W1903   BEARS            .               ONE              IS             20
B261W1903   DISTURBING       THE             BEEHIVE          .              30
B261W1903   A                HORNET*S   -    NEST             .              40
B261W1903   AND              HE              WILL             PROBABLY       50
B261W1903   BE               SORRY           THAT             HE             60
B261W1903   DID              ..                                              70
B262R1903  1   SEE
B262R1903                    THAT/S          A                BEAR           10
B262R1903   WITH             A               BEEHIVE          ..             20
B271S1903  1   SEE
B271S1903   NINETEEN    -    OH         -    THREE            IS             10
B271S1903   A                BEAR            IN               THE            20
B271S1903   HONEY            .               CUB              BEAR           30
B271S1903   ..                                                               40
B281R1903  1   SEE
B281R1903   NINETEEN    -    OH         -    THREE            IS             10
B281R1903   A                BEAR            TEARING          DOWN           20
B281R1903   A                HORNET*S   -    NEST             TO             30
B281R1903   GET              HIM             SOME             FEED           40
B281R1903   AND              THE             OTHER            IS             50
B281R1903   STANDING         DOWN            ON               THE            60
B281R1903   GROUND           LOOKING         FOR              IT             70
B281R1903   TO               FALL            ..                              80
B291G1903  1   SEE
B291G1903   NINETEEN    -    OH         -    THREE            IS             10
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B291G1903   TWO              BEARS            .                ONE              20
B291G1903   OF               THEM             GETTING          HONEY            30
B291G1903   OUT              OF               A                HIVE             40
B291G1903                    HITCHED          .                ATTACHED         50
B291G1903   TO               A                TREE             .                60
B291G1903   AND              THE              BEES             ALL              70
B291G1903   AROUND           ..                                                 80
B292G1903  1   SEE
B292G1903   NINETEEN    -    OH          -    THREE            BIG              10
B292G1903   BEAR             AND              A                LITTLE           20
B292G1903   BEAR             LOOKING          FOR              HONEY            30
B292G1903
     1903                    ITEM-END
     8086                          SYN                    SYNTAX
CAR         GUN             MASK           RCBBER             MAN             PISTOL          6
A011S8086  1RJWSEE                 03008                  05004               08010
A011S8086  1RSWSEE                 10008                  09008
A011S8086   EIGHTY          -      EIGHTY          -      SIX                 THIS           10
A011S8086   MAN/S                  BEING                  HELD                UP             20
A011S8086   BY                     THIS                   RCBBER              HERE           30
A011S8086   .                      HE                     HAS                 A              40
A011S8086   GUN                    IN                     HIS                 HAND           50
A011S8086   .                      GCT                    HIM                 PINNED         70
A011S8086   UP                     AGAINST                THE                 WALL           71
A011S8086   .                      HINTQ                  .                   AUTOMOBILE     80
A011S8086   OR                     A                      CAR                 .              90
A011S8086   HINTQ                                         LICENSE             PLATE         100
AC11S8086   ..                                                                              110
A021S8086  1BBJSEE                                        13010
A021S8086   OMIS
A021S8086   NUMBER                 EIGHT           -      THOUSAND     -      EIGHT     -    10
A021S8086   SIX                    HCLDUP                 .                   A              20
A021S8086   RCBBER                 IS                     EITHER              HOLDING        30
A021S8086   UP                     A                      MAN                 OR             40
A021S8086   GETTING                READY                  TO                  KILL           50
A021S8086   HIM                    BECAUSE                HE                  WOULDN/T       60
A021S8086   GIVE                   HIM                    HIS                 MONEY          70
A021S8086   ON                     THE                    STREET              AT             80
A021S8C86   NIGHT                                         WITH                A              90
A021S8C86   MASK                   OVER                   HIS                 FACE          100
A021S8086   .                      HE/S                   GCING               TO            110
A021S8086   HIT                    HIM                    OVER                THE           120
A021S8086   HEAD                   WITH                   A                   PISTOL        130
AC21S8086   .                      LICENSE                NUMBER              OF            140
A021S8086   THE                    CAR                    IS                  ONE           150
A021S8086   TWO                    THREE                  ..                                160
AC31S8086  1LBXSEE                                        17004
A031S8086   EIGHTY          -      EIGHTY          -      SIX                 IS             10
A031S8086   A                      PICTURE                OF                  TWO            20
A031S8086   MEN                    .                      ONE                 /F             30
A031S8086   THEM                   IS                     ATTACKING           THE            40
A031S8086   OTHER                  OR                     HOLDING             UP             50
A031S8086   WITH                   THE                    FORCE               OF             60
A031S8086   A                      GUN                    AND                 FVIDENTLY      70
A031S8086   THE                    MAN                    IS                  TRYING         80
A031S8086   A                      LITTLE                 SELF         -      DEFENSE        90
A031S8086                          HE                     IS                  TRYING        100
A031S8C86   WITH                   HIS                    LEFT                HAND          110
A031S8C86   TC                     TAKE                   THE                 GUN           120
A031S8C86   OR                     PISTOL                 BUT                 THE           130
A031S8086   GUY                    WITH                   THE                 MASK          140
AC31S8086   CVER                   HIS                    FACE                .             150
A031S8C86   YCU                    CAN                    SEE                 THE           160
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A031S8086   GETAWAY    -   CAR             .              IT              170
A031S8086   HAPPENS        .               OCCURS         AT              180
A031S8086   NIGHT          TIME            BECAUSE        YOU             190
A031S8086   MOON           AND             STARS          ..              210
A041S8086  1DHXSEE
A041S8086   EIGHTY     -   EIGHTY      -   SIX            IT/S             10
A041S8086   A              STICKUP         DOWNTOWN       DURING           20
A041S8086   THE            NIGHT           .              HINTQ            30
A041S8086   .              THE             GETAWAY    -   CAR              40
A041S8086   I              SUPPOSE         .              JUST             50
A041S8086   A              HANDKERCHIEF    TIED           AROUND           60
A041S8086   HIS            FACE            .              MASK             70
A041S8086   .              THE             GUN            .                80
A041S8086   HINTQ          .               HE/S           CHOKING          90
A041S8086   HIM            OR              BEATING        HIM             100
A041S8086   .              HINTQ           .              KNOCKED         110
A041S8086   HIS            HAT             OFF            ..              120
A042W8086  116XSEE
A042W8086   EIGHT      -   OH          -   EIGHT      -   SIX              10
A042W8086   IS             A               SORT           OF               20
A042W8086   CONFUSED       PICTURE         .              WE               30
A042W8086   HAVE           A               GENTLEMAN      WITH             40
A042W8086   A              HANDKERCHIEF    TIED           OVER             50
A042W8086   HIS            FACE            LIKE           A                60
A042W8086   MASK           WITH            A              PISTOL           70
A042W8086   POINTED        UP              IN             THE              80
A042W8086   AIR            AND             HE             LOOKS            90
A042W8086   LIKE           HE/S            GOT            HIS             100
A042W8086   HANDS          ON              THE            MAN*S           110
A042W8086   ADAM*S         APPLE           .              HINTQ           120
A042W8086   .              MUST            BE             GOING           130
A042W8086   TO             ROB             HIM            BUT             140
A042W8086   IT             SEEMS           AN             ODD             150
A042W8086   WAY            TO              AIM            THE             160
A042W8086   RISTOL         .               HE/S           LOSING          170
A042W8086   HIS            HAT             ..                             180
A051S8086  1   SEE
A051S8086   EIGHTY     -   EIGHTY      -   SIX            IS               10
A051S8086   A              ROBBER          AT             NIGHT            20
A051S8086   WHO            IS              HOLDING        UP               30
A051S8086   ANOTHER        MAN             .              THE              40
A051S8086   ROBBER         IS              WEARING        A                50
A051S8086   HAT            WITH            A              HANDKERCHIEF     60
A051S8086   OVER           HIS             FACE           .                70
A051S8086   HE             HAS             A              LONG             80
A051S8086   SPORT          COAT            AND            A                90
A051S8086   TIE            ON              ..                             100
A061E8086  1   SEE
A061E8086   EIGHT      -   OH          -   EIGHT      -   SIX              10
A061E8086   THERE          IS              A              MAN              20
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A061E8086   HOLDING         ANOTHER          MAN            AND              30
A061E8086   GOT             A                GUN            ON               40
A061E8086   HIM             AND              FIXING         TO               50
A061E8086   ROB             HIM              .              HE/S             60
A061E8086   TAKEN           HIM              OUT            OF               70
A061E8086   THE             CAR              OR             HE               80
A061E8086   GOT             OUT              OF             THE              90
A061E8086   CAR             ONE              AND            HE              100
A061E8086   HAS             A                MASK           ON              110
A061E8086   HIS             FACE             AND            HE              120
A061E8086   HAS             HIM              BY             THE             130
A061E8086   COLLAR          AND              HIS            HAT/S           140
A061E8086   OFF             ON               THE            SIDE            150
A061E8086   ..                                                              160
A071R8086  1JBXSEE          02006
A071R8086                   HINTQ            .              THAT/S           10
A071R8086   A               REVOLVER         .              HINTQ            20
A071R8086   .               HANDKERCHIEF     .              HINTQ            30
A071R8086   .               HE/S             GOING          TO               40
A071R8086   SHOOT           HIM              .              HINTQ            50
A071R8086   .               THAT/S           THE            BAR              60
A071R8086   TO              THE              BACK           END              70
A071R8086   OF              THE              CAR            .                80
A071R8086   HINTQ           .                OH             YES              90
A071R8086   .               NEW              MOON           ..              100
A081N8086  1    SEE
A081N8086   EIGHTY     -    EIGHTY      -    SIX            IS               10
A081N8086   THE             MOON             AND            THE              20
A081N8086   STARS           AND              I              GUESS            30
A081N8086   THIS            MAN              IS             HOLDING          40
A081N8086   THIS            OTHER            MAN            UP               50
A081N8086   .               HE               HAS            A                60
A081N8086   COVER           OVER             HIS            FACE             70
A081N8086   ..                                                               80
A082G8086  1    SEE
A082G8086                   THERE/S          THE            NEW              10
A082G8086   MOON            AGAIN            AND            THE              20
A082G8086   STARS           .                A              MAN              30
A082G8086   WITH            A                MASK           ON               40
A082G8086   AND             HE/S             FIXING         TO               50
A082G8086   SHOOT           THIS             FELLER         FOR              60
A082G8086   SOME            CAUSE            ..                              70
A091N8086  1GMXSEE          02010
A091N8086   EIGHT      -    OH          -    EIGHT     -    SIX              10
A091N8086   THIS            IS               A              BANDIT           20
A091N8086   HOLDING         SOME             ONE            UP               30
A091N8086   .               HE               HAS            HIS              40
A091N8086   GUN             .                THE            OTHER            50
A091N8086   MAN*S           HAT              HAS            FALLEN           60
A091N8086   OFF             .                HIS            CAR              70
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A091N8C86   IS          SITTING       HERE          .                         90
A091N8C86   THE         MOON          IS            SHINING                  100
A091N8C86   AND         THE           STARS         SO                       110
A091N8C86   IT          MUST          BE            NIGHT                    120
A091N8C86   ..
A101G8086  1   SEE                                                            10
A101G8C86               .             THIS          IS                        20
A101G8C86   A           KIND          OF            A                         30
A101G8086   HOLDUP      .             IT/S          A                         40
A101G8C86   MAN         .             HE            HAS                       50
A101G8C86   A           SCARF         AND           HE                        60
A101G8C86   HAS         GOT           THE           OTHER                     70
A101G8C86   MAN         BY            THE           THROAT                    80
A101G8086   AND         HAS           KNOCKED       HIS                       90
A101G8C86   HAT         OFF           .             DOWN                     100
A101G8C86   .           AND           HE/S          GOT                      110
A101G8086   HIS         CAR           STANDING      OUT                      120
A101G8C86   HERE        .             HE/S          READY                    130
A101G8C86   TO          DO            SOME          HARM                     140
A101G8C86   AND         MAKE          HIS           GETAWAY                  150
A101G8086   ..
A102G8086  1   SEE                                                            10
A102G8C86   EIGHTY   -  EIGHTY    -   SIX           WE                        20
A102G8C86   GOT         A             HOLDUP        .                         30
A102G8086   MAN         GOT           A             GUN                       40
A102G8086   DRAWED      ON            ANOTHER       MAN                       50
A102G8C86   .           DONE          KNOCKED       HIS                       60
A102G8C86   HAT         OFF           .             THERE                     70
A102G8C86   IS          A             CAR           SITTING                   80
A102G8C86   THERE       WAITING       TO            CARRY                     90
A102G8C86   HIM         OFF           ..
A111N8C86  1   SEE                                                            10
A111N8C86   EIGHT    -  OH        -   EIGHT     -   SIX                       20
A111N8086   HOLDUP      .             TELLS         TO                        30
A111N8086   ME          THAT          THE           ROBBER                    40
A111N8C86   IS          THE           DRIVER        AND                       50
A111N8C86   OWNER       OF            THE           CAR                       60
A111N8086   HOLDING     UP            THE           PASSERBY                  70
A111N8C86   WITH        THE           PISTOL        .                         80
A111N8C86   WHICH       HE/S          ALREADY       KNOCKED                   90
A111N8086   OFF         HIS           HAT           AND                      100
A111N8086   IT/S        ON            ITS           WAY                      110
A111N8C86   TO          THE           GROUND        ..
A112G8C86  1   SEE                                                            10
A112G8086               ROBBER        ROBBING       A                         20
A112G8086   MAN         BY            MOONLIGHT     WITH                      30
A112G8C86   A           MASK          OBER          HIS                       40
A112G8C86   FACE        AND           GUN           IN                        50
A112G8C86   HIS         HAND          .             CHOKING                   60
A112G8086   HIM         .             CAR           TO
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A112G8086   ESCAPE            IN               ..                                  70
A121R8086  1   SEE
A121R8C86   EIGHT        -    CH          -    EIGHT          -    SIX             10
A121R8C86   A                 HOLDUP           AT                  NIGHT           20
A121R8086   .                 MAN              WITH                A               30
A121R8C86   MASK              OVER             HIM                 HOLDING         40
A121R8C86   UP                THE              OTHER               ONE             50
A121R8086   .                 THER/S           THE                 PROBABLY        60
A121R8C86   THE               GETAWAY     -    CAR                 FOR             70
A121R8086   THE               MAN              THAT/S              HOLDING         80
A121R8086   HIM               .                MOON                AND             90
A121R8C86   STARS             ARE              OUT                 ..             100
A131X8086  1   SEE
A131X8C86   EIGHT        -    CH          -    EIGHTY         -    SIX             10
A131X8C86   IS                A                BLACKMAILER         THREATENING     20
A131X8086   A                 MAN*S            LIFE                .               30
A131X8C86   HE/S              GOT              HIM                 OUT             40
A131X8C86   OF                HIS              CAR                 AND             50
A131X8086   HIS               HAT/S            BEEN                KNOCKED         60
A131X8086   OFF               .                THE                 MOON            70
A131X8086   IS                SHINING          ON                  THEM            80
A131X8086   .                 HINTQ            .                   A               90
A131X8C86   NIGHT             ROBBERY          ..                                 100
B201X8086  1LRTSEE
B201X8C86   EIGHT        -    CH          -    EIGHTY         -    SIX             10
B201X8C86   WELL              THERE/S          A                   DESPERADO       20
B201X8086   THAT/S            A                ROBBER              .               30
B201X8C86   HE/S              GOT              HIS                 FACE            40
B201X8086   MASKED            .                GOT                 THE             50
B201X8C86   GUN               IN               HIS                 HAND            60
B201X8086   .                 GOT              THE                 GUY             70
B201X8C86   BY                THE              THROAT              .               80
B201X8086   AND               THERE/S          THIS                CAR             90
B201X8086   BACK              THERE            READY               TO             100
B201X8C86   TAKE              OFF              ..                                 110
B211S8086  1   SEE
B211S8086   EIGHTY       -    EIGHTY      -    SIX                 THAT/S          10
B211S8C86   A                 ROBBERY          TAKING              PLACE           20
B211S8C86   .                 HINTQ            .                   HE/S            30
B211S8086   HOLDING           THIS             ONE                 UP              40
B211S8086   .                 HINTQ            .                   A               50
B211S8C86   MASK              .                HINTW               .               60
B211S8086   A                 GUN              .                   HINTQ           70
B211S8086   .                 HE               HAS                 HIM             80
B211S8086   BY                THE              THROAT              .               90
B211S8C86   HINTQ             .                A                   CAR            100
B211S8C86   .                 TIRE             .                   BUMPER         110
B211S8C86   ..                                                                    120
B221N8086  1   SEE                                                                  1
B221N8C86   OMIS
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B221N8086   NUMBER          EIGHT       -   OH          -   EIGHT       -      11
B221N8C86   SIX             SEEMS           TC              BE                 20
B221N8086   A               BANDIT          .               A                  30
B221N8086   RCBBER          THAT            IS              ATTACKING          40
B221N8C86   THE             MAN             AND             GOING              50
B221N8C86   TO              RCB             HIM             .                  60
B221N8C86   HE/S            GCT             HIS             PISTOL             70
B221N8086   IN              HIS             HAND            AND                80
B221N8086   HE              IS              EVIDENTLY       KNOWN              90
B221N8086   TC              THE             MAN             THAT              100
B221N8C86   HE              IS              RCBBING         BECAUSE           110
B221N8C86   HE/S            GCT             A               MASK              120
B221N8C86   A               HANDKERCHIEF    TIED            OVER              130
B221N8086   HIS             FACE            SC              HE                140
B221N8086   RECOGNIZED      .               AS              SOON              150
B221N8C86   AS              HE              RCBS            HIM               160
B221N8086   HE/S            GCING           TC              GET               170
B221N8086   AWAY            IN              HIS             CAR               180
B221N8C86   SITTING         CVER            THERE           WITH              190
B221N8086   TAG             NUMBER          CNE             TWO               200
B221N8C86   THREE           SITTING         ON              IT                210
B221N8C86   ..                                                                220
B231R8086  1   SEE
B231R8C86   EIGHTY      -   EIGHTY      -   SIX             BANDIT             10
B231R8C86   HCLDING         UP              MAN             ..                 20
B241N8C86  1   SEE
B241N8C86   EIGHT       -   CH          -   EIGHT       -   SIX                10
B241N8086   A               BANDIT          WITH            A                  20
B241N8C86   MASK            AND             PISTOL          HOLDING            30
B241N8C86   UP              A               MAN             WITH               40
B241N8C86   HIS             CAR             AND             THE                50
B241N8C86   MCCN            SHINING         ON              THEM               60
B241N8086   AND             THE             STARS           ABOVE              70
B241N8C86   ..                                                                 80
B242N8C86  1EMXSEE          03006
B242N8C86   EIGHTY      -   EIGHTY      -   SIX             IS                 10
B242N8086   A               HCLDUP          SCENE           .                  20
B242N8C86   THE             HCLDUP      -   MAN             HAS                30
B242N8086   A               BANDANA         OVER            HALF               40
B242N8C86   OF              HIS             FACE            AND                50
B242N8C86   HE              HAS             A               GUN                60
B242N8C86   IN              HIS             HAND            AND                70
B242N8086   HE              HAS             THE             MAN                80
B242N8C86   AT              THE             THROAT          AND                90
B242N8086   HIS             .               THE             MAN/S             100
B242N8C86   HAT             IS              FALLING         OFF               110
B242N8086   AND             IT/S            AT              NIGHT             120
B242N8086   BECAUSE         YCU             CAN             SEE               130
B242N8C86   THE             MCCN            AND             STARS             140
B242N8C86   AND             THERE           IS              AN                150
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B242N8086   AUTOMOBILE        NEAR              BY                ..             160
B243N8086  1   SEE
B243N8086   EIGHT          -  OH             -  EIGHT          -  SIX             10
B243N8086   SEEMS             TO                BE                A               20
B243N8086   KIND              OF                HOLDUP            .               30
B243N8086   MAN               HAS               GOT               A               40
B243N8086   MASK              OVER              HIS               FACE            50
B243N8086   AND               HE/S              GOT               HIS             60
B243N8086   GUN               ON                THIS              FELLOW          70
B243N8086   AND               HE/S              EVIDENTLY         CAUGHT          80
B243N8086   HIM               OUT               OF                HIS             90
B243N8086   CAR               AND               FIXING            TO             100
B243N8086   ROB               HIM               ..                               110
B244N8086  1   SEE
B244N8086   EIGHT          -  OH             -  EIGHT          -  SIX             10
B244N8086   IS                A                 NIGHT             SCENE           20
B244N8086   .                 THE               MOON              AND             30
B244N8086   STARS             AND               IT/S              A               40
B244N8086   HOLDUP            .                 A                 MAN             50
B244N8086   WITH              A                 MASK              AND             60
B244N8086   HIS               GUN               HOLDING           A               70
B244N8086   MAN               BY                THE               COLLAR          80
B244N8086   .                 HAT               HAS               FALLEN          90
B244N8086   OFF               AND               THERE             IS             100
B244N8086   AN                AUTOMOBILE        WAITING           FOR            110
B244N8086   HIM               ..                                                 120
B251N8086  1   SEE
B251N8086   EIGHT          -  OH             -  EIGHT          -  SIX             10
B251N8086   IS                A                 HOLDUP            .               20
B251N8086   A                 MASKED            MAN               HAS             30
B251N8086   ANOTHER           MAN               BY                THE             40
B251N8086   THROAT            .                 CHOKING           HIM             50
B251N8086   .                 THEY              ARE               IN              60
B251N8086   FRONT             OF                A                 BUILDING        70
B251N8086   THAT              COULD             BE                A               80
B251N8086   BANK              BUILDING          AND               THE             90
B251N8086   HOLDUP         -  MAN               HAS               A              100
B251N8086   GUN               AND               YOU               KNOW           110
B251N8086   IT                IS                NIGHT             BECAUSE        120
B251N8086   THERE             IS                A                 MOON           130
B251N8086   UP                THERE             AND               AND            140
B251N8086   AN                AUTOMOBILE        PARKED            OUT            150
B251N8086   FRONT             .                 THAT/S            ALL            160
B251N8086   ..                                                                   170
B252N8086  1   SEE
B252N8086   EIGHT          -  OH             -  EIGHT          -  SIX             10
B252N8086   IS                A                 SCENE             OF              20
B252N8086   A                 HOLDUP            .                 THE             30
B252N8086   BURGLAR           HAS               A                 HANDKERCHIEF    40
B252N8086   AROUND            HIS               MOUTH             AND             50
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B252N8086   NOSE          JUST          BELOW          HIS          60
B252N8086   EYES          .             HE             HAS          70
B252N8086   AN            OLD           SOFT           BLACK        80
B252N8086   HAT           ON            AND            HE/S         90
B252N8086   KNOCKED       THE           OTHER          MAN*S       100
B252N8086   HAT           OFF           AND            HAS         110
B252N8086   HIM           BY            THE            COLLAR      120
B252N8086   AND           HE/S          EVIDENTLY      GOING       130
B252N8086   TO            TAKE          ALL            THE         140
B252N8086   MONEY         HE            HAS            .           150
B252N8086   IT/S          LATE          AT             NIGHT       160
B252N8086   BECAUSE       THE           MOON           IS          170
B252N8086   SHINING       AND           THE            STARS       180
B252N8086   ARE           BRIGHT        AND            THERE       190
B252N8086   IS            A             CAR            WAITING     200
B252N8086   FOR           THE           GETAWAY        ..          210
B261W8086  1   SEE
B261W8086   EIGHTY     -  EIGHTY     -  SIX            A            10
B261W8086   HOLDUP        .             A              MAN          20
B261W8086   WITH          A             HANDKERCHIEF   OVER         30
B261W8086   HIS           EYES          AND            HE           40
B261W8086   HAS           A             PISTOL         IN           50
B261W8086   HIS           HAND          .              HIS          60
B261W8086   HAND          IS            ON             THE          70
B261W8086   OTHER         MAN*S         THROAT         AND          80
B261W8086   A             CAR           IS             WAITING      90
B261W8086   TO            SPEED         HIM            AWAY        100
B261W8086   .             WE            KNOW           IT          110
B261W8086   IS            NIGHT         BECAUSE        WE          120
B261W8086   SEE           THE           STARS          AND         130
B261W8086   THE           MOON          ..                         140
B262R8086  1   SEE
B262R8086                 AND           HERE/S         THE          10
B262R8086   HOLDUP     -  MAN           .              HOLDING      20
B262R8086   UP            THIS          MAN            TRYING       30
B262R8086   TO            GET           MONEY          .            40
B262R8086   I             GUESS         HE/LL          DO           50
B262R8086   IT            ..                                        60
B271S8086  1   SEE
B271S8086   EIGHTY     -  EIGHTY     -  SIX            IS           10
B271S8086   A             HOLDUP        .              GOT          20
B271S8086   A             MAN           HAS            GOT          30
B271S8086   A             GUN           .              MASK         40
B271S8086   .             HAT           .              HE/S         50
B271S8086   GOT           A             SUIT           .            70
B271S8086   HE/S          LOST          HIS            HAT          70
B271S8086   .             BEING         HELD           UP           80
B271S8086   .             AUTOMOBILE    TAG            NUMBER       90
B271S8086   ..                                                     100
B281R8086  1   SEE
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B281R8086   EIGHTY       -   EIGHTY       -   SIX              IS                  10
B281R8086   A                ROBBERY          HAS              OCCURRED            20
B281R8086   BACK             ON               THE              HIGHWAY             30
B281R8086   .                MAN              WITH             A                   40
B281R8086   MASK             OVER             HIS              FACE                50
B281R8086   .                GUN              IN               HIS                 60
B281R8086   HANDS            .                AND              THE                 70
B281R8086   OTHER            FELLOW           HELD             UP                  80
B281R8086   .                VERY             MUCH             RESEMBLING          90
B281R8086   A                ROBBERY          ..                                  100
B291G8086  1   SEE
B291G8086   EIGHTY       -   EIGHTY       -   SIX              DEPICTS             10
B291G8086   A                HOLDUP           .                IT/S                20
B291G8086   MOONLIGHT        AND              STARS            ARE                 30
B291G8086   SHINING          .                THERE            IS                  40
B291G8086   AN               AUTOMOBILE       THERE            .                   50
B291G8086   A                MAN              HAS              A                   60
B291G8086   MASK             OVER             HIS              FACE                70
B291G8086   AND              A                PISTOL           IN                  80
B291G8086   HIS              HAND             .                AND                 90
B291G8086   HE               HAS              GRABBED          THE                100
B291G8086   OTHER            MAN              BY               THE                110
B291G8086   THROAT           AND              KNOCKED          HIS                120
B291G8086   HAT              OFF              ..                                  130
B292G8086  1   SEE
B292G8086   EIGHT        -   OH           -   EIGHT        -   SIX                 10
B292G8086   HE               MUST             HAVE             GOTTEN              20
B292G8086   OUT              OF               HIS              CAR                 30
B292G8086   AND              THE              MAN/S            HOLDING             40
B292G8086   HIM              UP               WITH             A                   50
B292G8086   MASK             ON               HIS              FACE                60
B292G8086   AND              HE/S             GOT              A                   70
B292G8086   GUN              IN               HIS              HAND                80
B292G8086   .                IT/S             NIGHT            .                   90
B292G8086   THE              MOONS            SHINING          ..                 100
     8086                    ITEM-END         LEXICON
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SUB-REGIONAL SPEECH VARIATIONS IN VOCABULARY,GRAMMAR,PRONUNCIATION GORDON R WOOD
21-13-7-05921-STRUCTURE GRANT 3046 HENGER 3-6-050909-0972 1966-67

ITEM NUMBER 311

(SPECIAL WORD) WOODPECKER

	PLACE	AGE-ED	NUMBER OF LOCAL OCCURRENCE	PERCENT OF TOTAL
THREE HUNDRED AND ELEVEN	B241	N		.0
THREE HUNDRED AND ELEVEN	A102	G		.0
THREE HUNDRED AND ELEVEN	A061	E		.0
THREE HUNDRED ELEVEN	A021	S	1	5.2
THREE HUNDRED ELEVEN	B221	N		.0
THREE TEN	B244	N		.0
THREE ELEVEN	A011	S	1	5.2
THREE ELEVEN	A042	W	1	5.2
THREE ELEVEN	A031	S	2	10.5
THREE ELEVEN	A041	S	1	5.2
THREE ELEVEN	B211	S	1	5.2
THREE ELEVEN	A051	S	1	5.2
THREE ELEVEN	B231	R	1	5.2
THREE ELEVEN	A111	N	1	5.2
THREE ELEVEN	B242	N		.0
THREE ELEVEN	A121	R		.0
THREE ELEVEN	A131	X	1	5.2
THREE ELEVEN	B251	N	1	5.2
THREE ELEVEN	B271	S	1	5.2
THREE ELEVEN	A081	N	1	5.2
THREE ELEVEN	B201	X	1	5.2
THREE ELEVEN	A091	N		.0
THREE ELEVEN	B252	N	1	5.2
THREE ELEVEN	B291	G		.0
THREE ELEVEN	B292	G	1	5.2
THREE ELEVEN	B261	W	1	5.2
THREE ELEVEN	B281	R		.0
FIVE ELEVEN	B243	N	1	5.2
	A101	G		.0
	A112	G		.0
	B262	R		.0
	A082	G		.0
	A071	R		.0

TOTAL RESPONSES 9

GROUP 'A'	10	52.6
GROUP 'B'	9	47.3

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          SUB-REGIONAL SPEECH VARIATIONS IN VOCABULARY,GRAMMAR,PRONUNCIATION GORDON R WOOD
          21-13-7-85921-STRUCTURE GRANT 3046 HEWDER 3-6-050909-0972   1966-67

                                        ITEM NUMBER  311

                    (SPECIAL WORD) PECKER WOOD

                                                                                NUMBER OF LOCAL         PERCENT
                                                    PLACE      AGE-ED             OCCURRENCE            OF TOTAL
THREE    HUNCREC   AND     ELEVEN                   B241         N                    1                    7.1
THREE    HUNDRED   AND     ELEVEN                   A102         G                    1                    7.1
THREE    HUNDRED   AND     ELEVEN                   A061         E                                          .0
THREE    HUNCREC   ELEVEN                           A021         S                                          .0
THREE    HUNCREC   ELEVEN                           B221         N                    1                    7.1
THREE    TEN                                        B244         N                    1                    7.1
THREE    ELEVEN                                     A011         S                                          .0
THREE    ELEVEN                                     A042         W                                          .0
THREE    ELEVEN                                     A031         S                                          .0
THREE    ELEVEN                                     A041         S                    1                    7.1
THREE    ELEVEN                                     B211         S                                          .0
THREE    ELEVEN                                     A051         S                                          .0
THREE    ELEVEN                                     B231         R                                          .0
THREE    ELEVEN                                     A111         N                                          .0
THREE    ELEVEN                                     B242         N                    1                    7.1
THREE    ELEVEN                                     A121         R                    1                    7.1
THREE    ELEVEN                                     A131         X                                          .0
THREE    ELEVEN                                     B251         N                                          .0
THREE    ELEVEN                                     B271         S                                          .0
THREE    ELEVEN                                     A081         N                                          .0
THREE    ELEVEN                                     B201         X                                          .0
THREE    ELEVEN                                     A091         N                    1                    7.1
THREE    ELEVEN                                     B252         N                                          .0
THREE    ELEVEN                                     B291         G                    1                    7.1
THREE    ELEVEN                                     B292         G                                          .0
THREE    ELEVEN                                     B261         W                                          .0
THREE    ELEVEN                                     B281         R                                          .0
FIVE     ELEVEN                                     B243         N                                          .0
                                                    A101         G                    1                    7.1
                                                    A112         G                                          .0
                                                    B262         R                    2                   14.2
                                                    A082         G                    1                    7.1
                                                    A071         R                    1                    7.1

                         TOTAL RESPONSES  4
                                         GROUP 'A'                                    7                   50.0
                                         GROUP 'B'                                    7                   50.0
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A071R0090   ONE             **                                         4

A112G0090   NINETY          I             JUST          DON/T          1
A112G0090   KNOW            ABOUT         THAT          ONE            2
A112G0090   **                                                         3

A121R0090                   I             DON/T         KNOW           1
A121R0090   **                                                         2

B211S0090   NINETY          ICE           BLOCK         WITH           1
B211S0090   HANDLES         ON            IT            **             2

B241N0090   NINETY          LASSO         **                           1

A121R0112   HUNDRED     -   AND       -   TWELVE        IS             1
A121R0112   THAT            A             LEOPARD       **             2

B201X0112   ONE         -   TWELVE        THAT/S        TOO            1
B201X0112   BIG             FOR           A             HOUSE      -   2
B201X0112   CAT             *             IT            WOULD          3
B201X0112   BE              TOO           LARGE         FOR            4
B201X0112   A               HOUSE     -   CAT           SO             41
B201X0112   I               GUESS         THAT/S        A              5
B201X0112   WILD        -   CAT           **                           6

B241N0112   HUNDRED     -   AND       -   TWELVE        IS             1
B241N0112   A               ZEBRA         **                           2

A082G0179                   MAN           WITH          HIS            1
A082G0179   *               IS            THAT          A              11
A082G0179   PISTOL          *             AND           A              2
A082G0179   PISTOL          IN            HIS           HAND           21
A082G0179   **                                                         3

B243N0179   OHIS                                                       1
B243N0179   NUMBER          ONE       -   SEVENTY   -   NINE           11
B243N0179   SEEMS           TO            BE            A              2
B243N0179   OLD             TIME          HIGHWAY   =                  30
B243N0179   PATROLMAN       AND           HE/S          HOLLERING      40
B243N0179   STOP            **                                         51

B211S0225   TWO         -   TWENTY    -   FIVE          THAT/S         1
B211S0225   JUST            FLOWERS                                    11
B211S0225   *               HINTQ         *             LILIES         2
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         945          1 E*        RE*D-WXRM         4
         945          1 I*        RI*D-WXRM         2
         945          3 E*I*      RE*I*C-WXRM      12
         945          2 X         RE*D-WXRM         8
         945          3 X         RE*D-WXRM        13
         945          2 O*        K8TC*B8           7
         945          3 UI*       LI*Q             14
AC21S      2    XRG          -    WXRM
AC61E      6    K8TC*B8      -    WXRM
AC71R      8    XRG          -    WXRM
B211S     18    REI*D-WXRM
B231R     19    K8TC*B8      -    WXRM
B242N     20    LI*G-WUI*M
B243N     21    K8TC*B8      -    WXRM
B244N     22    LI*G-WUI*M
B262R     24    LI*G-WUI*M
B271S     25    RI*S-WXRM
B281R     26    K8TC*B8      -    WXRM
B291G     27    XRG          -    WXRM
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                    ITEM  945   WORD  2      RED-WORM RE*D-WXRM

  4 RE*D-WXRM       2 RI*D-WXRM     12 RE*I*D-WXRM   8 RE*D-WXRM     13 RE*D-WXRM
PLACE AGE CLASSIFICATION        (OPTION 1)                 (OPTION 2)
      EDU             I     I*     E     E*    A*     A     O*    X     O     U*     U
A011   S              0     0      0     0     0      0     0     0     0     0      0
A021   S              0     0      0     1     0      0     0     1     0     0      0
A031   S              0     1      0     0     0      0     0     0     0     0      0
A041   S              0     1      0     0     0      0     0     0     0     0      0
A051   S              0     1      0     0     0      0     0     0     0     0      0
A061   E              0     0      0     0     0      0     0     0     0     0      0
B221   N              0     0      0     0     0      0     0     0     0     0      0
A071   R              0     0      0     0     0      0     0     0     0     0      0
A081   N              0     0      0     1     0      0     0     1     0     0      0
A091   N              0     0      0     0     0      0     0     0     0     0      0
A101   G              0     0      0     0     0      0     0     0     0     0      0
A102   G              0     0      0     1     0      0     0     1     0     0      0
A111   N              0     1      0     0     0      0     0     0     0     0      0
A112   G              0     0      0     1     0      0     0     1     0     0      0
A121   R              0     0      0     1     0      0     0     1     0     0      0
A131   X              0     1      0     0     0      0     0     0     0     0      0
B201   X              0     0      0     1     0      0     0     1     0     0      0
B211   S              0     0      0     0     0      0     0     0     0     0      0
B231   R              0     0      0     0     0      0     0     0     0     0      0
B242   N              0     0      0     0     0      0     0     0     0     0      0
B243   N              0     0      0     0     0      0     0     0     0     0      0
B244   N              0     0      0     0     0      0     0     0     0     0      0
B252   N              0     0      0     1     0      0     0     1     0     0      0
B262   R              0     0      0     0     0      0     0     0     0     0      0
B271   S              0     0      0     0     0      0     0     0     0     0      0
B281   R              0     0      0     0     0      0     0     0     0     0      0
B291   G              0     0      0     0     0      0     0     0     0     0      0

 TOT.  A              0     5      0     5     0      0     0     5     0     0      0
 TOT.  B              0     0      0     2     0      0     0     2     0     0      0

 PERC  A              0   100      0    70     0      0     0    70     0     0      0
 PERC  B              0     0      0    28     0      0     0    28     0     0      0
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                        ITEM  945   WCRD  2      RED-WORM RE*D-WXRM

 4 RE*D-WXRM      2 RI*D-WXRM     12 RE*I*D-WXRM   8 RE*C-WXRM    13 RE*D-WXRM
PLACE AGE CLASSIFICATICN        (CPTICN 3)
      EDU      E*I* X      UI*
A011   S            1    C    C
A021   S            0    1    C
A031   S            0    C    C
A041   S            0    0    C
A051   S            0    C    C
A061   E            0    C    C
B221   N            0    0    C
A071   R            0    C    0
A081   N            0    1    C
A091   N            1    C    C
A101   G            1    0    C
A102   G            0    1    C
A111   N            0    C    C
A112   G            0    1    C
A121   R            0    1    C
A131   X            0    C    0
B201   X            0    1    C
B211   S            0    0    C
B231   R            0    0    C
B242   N            0    0    0
B243   N            0    C    C
B244   N            0    0    C
B252   N            0    1    C
B262   R            0    C    0
B271   S            0    C    C
B281   R            0    C    C
B291   G            0    0    C

 TOT.  A            3    5    0
 TOT.  B            0    2    C

 PERC  A           99   7C    C
 PERC  B            0   28    C
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     C311                           SYN               SYNTAX                                 3
WOODPECKER   WOOD          BIRD
           1    SEE                 C1008
A011SC311    THREE         -        ELEVEN            WOODPECKER         ..                  1
           1    SEE
A021SC311    THREE         -        HUNDRED     -     ELEVEN             RED                 1
A021SC311    HEADED                 WOODPECKER                           ..                  2
           1    SEE
A031SC311    THREE         -        ELEVEN            WOODPECKER         RED                 1
A031SC311    HEADED                 WOODPECKER        ..                                     2
           1    SEE                 C5010
A041SC311    THREE         -        ELEVEN            IS                 A                   1
A041SC311    BIRD                   A                 WOODPECKER         .                   2
A041SC311    NOW                    ALL               MY                 LIFE                3
A041SC311    I                      MEAN              I                  KNEW                4
A041SC311    IT                     AS                A                  PECKER        -     5
A041SC311    WOOD                   .                 THREE              WAS                 6
A041SC311    NO                     .                 THEY               WAS                 7
A041SC311    INTERCHANGE   -        ABLE              ..                                     8
           1    SEE
A042WC311    THREE         -        ELEVEN            IS                 A                   1
A042WC311    RED                    HEADED            WOODPECKER         ..                  2
           1    SEE
A051SC311    THREE         -        ELEVEN            IS                 A                   1
A051SC311    RED                    HEADED            WOODPECKER         ..                  1
           1    SEE                 C6004
A061EC311    THREE         -        HUNDRED     -     AND          -     ELEVEN              1
A061EC311    IS                     A                 BIRD               ASITTING            2
A061EC311    ON                     A                 LOG                AND                 3
A061EC311    HE/S                   APECKING          IN                 IT                  4
A061EC311    .                      THEY              CALL               THEM                5
A061EC311    PECKER        -        WOODS             ..                                     6
           1    SEE
A071RC311    PECKER        -        WOOD              ..                                     1
           1    SEE
A081NC311    THREE         -        ELEVEN            IS                 THE                 1
A081NC311    WOODPECKER             ON                THIS               LIMB                2
A081NC311    ..
           1    SEE
A082GC311    PECKER        -        WOOD              ..                                     1
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          1   SEE
A091NC311   THREE       -   ELEVEN            IS                A                1
A091NC311   RED             HEAD              PECKER        -   WOOD             2
A091NC311   ..                                                                   3
          1   SEE
A101GC311   THAT/S          A                 PECKER        -   WOOD             1
A101GC311   RED             HEADED            BIRD              ..               2
          1   SEE
A102GC311   THREE       -   HUNDRED     -     AND           -   ELEVEN           1
A102GC311   IS              A                 RED               HEADED           2
A102GC311   PECKER      -   WOOD              ..                                 3
          1   SEE
A111NC311   THREE       -   ELEVEN            A                 WOODPECKER       1
A111NC311   ..                                                                   2
          1   SEE
A112GC311   BIRD            ON                A                 LIMB             1
A112GC311   OF              A                 TREE              .                2
A112GC311   HINTG           WOODCHUCK         ..                                 3
          1   SEE
A121RC311   THREE       -   ELEVEN            IS                A                1
A121RC311   RED             HEADED            PECKER        -   WOOD             2
A121RC311   ..
          1   SEE
A131XC311   THREE       -   ELEVEN            IS                A                1
A131XC311   RED             HEADED            WOODPECKER        ..               2
          1   SEE
B201XC311   THREE       -   ELEVEN            THAT/S            A                1
B201XC311   LITTLE          BIRD              A                 LITTLE           2
B201XC311   SAPSUCKER       A                 LITTLE            WOODPECKER       3
B201XC311   HE/S            ON                THE               TREE             4
B201XC311   .               I                 GOT               ONE              5
B201XC311   RIGHT           BACK              THERE             AND              6
B201XC311   HE/LL           GO                OUT               THERE            7
B201XC311   AND             NAIL              THAT              TREE             8
B201XC311   AND             HE                SOUNDS            LIKE             9
B201XC311   SOMEONE         BEATING           A                 GONG             10
B201XC311   ..                                                                   11
          1   SEE
B211SC311   THREE       -   ELEVEN            A                 WOODPECKER       1
B211SC311   ..                                                                   2
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               1   SEE
B221NC311    THIS          NUMBER            THREE        -   HUNDRED      -     1
B221NC311    ELEVEN        IS                A                RED                2
B221NC311    HEAD          PECKER      -     WOOD             ..                 3
               1   SEE
B231RC311    THREE     -   ELEVEN            IS               A                  1
B231RC311    WOODPECKER    RED               WHITE            AND                2
B231RC311    BLUE          ..                                                    3
               1   SEE
B241NC311    THREE     -   HUNDRED     -     AND          -   ELEVEN             1
B241NC311                  HEAD              PECKER       -   WOOD               2
B241NC311    ..                                                                  3
               1   SEE
B242NC311    THREE     -   ELEVEN            IS               A                  1
B242NC311    RED           HEADED            PECKER       -   WOOD               2
B242NC311    ON            A                 LIMB             .                  3
B242NC311    OAK           TREE              AND              THAT               4
B242NC311    OAK           TREE              HAS              AN                 5
B242NC311    ACORN         THAT              I                CAN                6
B242NC311    SEE           ..                                                    7
               1   SEE
B243NC311    FIVE      -   ELEVEN            A                RED                1
B243NC311    HEADED        WOODPECKER        ..                                  2
               1   SEE
B244NC311    THREE     -   TEN               IS               A                  1
B244NC311    RED           HEADED            PECKER       -   WOOD               2
B244NC311    ..                                                                  3
               1   SEE
B251NC311    THREE     -   ELEVEN            IS               A                  1
B251NC311    BIRD          .                 IT               MUST               2
B251NC311    BE            A                 WOODPECKER       ..                 3
               1   SEE
B252NC311    THREE     -   ELEVEN            I                DON/T              1
B252NC311    KNOW          MY                BIRDS            BLUEJAY            2
B252NC311    HINTH         WOODPECKER        ON               A                  3
B252NC311    LIMB          ..                                                    4
               1   SEE
B261WC311    THREE     -   ELEVEN            A                WOODPECKER         1
B261WC311    ..
               1   SEE
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                                                          PECKER     -      1
B262RC311  THIS              IS             A             I                 2
B262RC311  WOOD              BIRD           .             IT                3
B262RC311  BELIEVE           WE             CALL                            4
B262RC311  PECKER     -      WOOD           ..
        1    SEE                                          A                 1
B271SC311  THREE      -      ELEVEN         IS                              2
B271SC311  WOODPECKER        ..
        1    SEE                                          A                 1
B281RC311  THREE      -      ELEVEN         IS            THAT              1
B281RC311  RED               HEAD           BIRD          TREES             2
B281RC311  PECKS             HOLES          IN                              3
B281RC311  ..
        1    SEE                                          A                 1
B291GC311  THREE      -      ELEVEN         IS       -    WOOD              2
B291GC311  RED               HEADED         PECKER        .                 3
B291GC311  ON                A              TREE          WHAT              4
B291GC311  I                 DON/T          KNOW          ..                5
B291GC311  KIND              OF             TREE
        1    SEE                                          WITH              1
B292GC311  THREE      -      ELEVEN         WOODPECKER    A                 2
B292GC311  RED               HEAD           ON                              3
B292GC311  TREE              ..
     C311                    ITEM-END
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       CC34                          SYN             SYNTAX
                                                                                1
QUEEN
A011S0034   1    SEE                 01004                                      1
A011S0034    QUEEN                   .               CROWN          ..
             1    SEE
A021S0034    THIRTY       -          FOUR            QUEEN          .           1
A021S0034    CROWN                   .               ROBE           ..          2
             1    SEE
A031S0034    THIRTY       -          FOUR            A              QUEEN       1
A031S0034    I                       PRESUME         .              THAT/S      2
A031S0034    THE                                                                21
A031S0034    CROWN                   .               ROBE           ..          3
             1    SEE
A041S0034    THIRTY       -          FOUR            IS             A           1
A041S0034    QUEEN                   .               I              SUPPOSE     2
A041S0034    .                       CROWN           .              ROBE        3
A041S0034    ..                                                                 4
             1    SEE
A042W0034    THIRTY       -          FOUR            LOOKS          LIKE        1
A042W0034    A                       QUEEN           AND            A           2
A042W0034    CROWN                   OR              A              CORONET     3
A042W0034    .                       THIS            MUST           BE          4
A042W0034    AN                      ERMINE          COLLAR         ..          5
             1    SEE
A051S0034    THIRTY       -          FOUR            A              QUEEN       1
A051S0034    .                       HINTQ           .              A           11
A051S0034    CROWN                   ..                                         2
             1    SEE
A061E0034    THIRTY       -          FOUR            IS             A           1
A061E0034    QUEEN                   ..                                         2
             1    SEE
A071R0034    HINTQ                   .               CROWN          .           1
A071R0034    YES                     A               QUEEN          ..          2
             1    SEE
A081N0034    THIRTY       -          FOUR            A              QUEEN       1
A081N0034    ..                                                                 2
             1    SEE
A082G0034                            QUEEN           ..                         1
             1    SEE
A091N0034    THIRTY       -          FOUR            A              QUEEN       1
A091N0034    ..                                                                 2
             1    SEE
A101G0034                            A               QUEEN          WITH        1
A101G0034    HER                     BAND            ..                         2
             1    SEE
A102G0034    THIRTY       -          FOUR            MUST           BE          1
A102G0034    THE                     QUEEN           ..                         2
             1    SEE
A111N0034    THIRTY       -          FOUR            QUEEN          ..          1
             1    SEE
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A112G0034   THIRTY      -   FCUR          A            LADY          1
A112GC034   ..                                                       2
          1   SEE
A121RC034   THIRTY      -   FCUR          IS           A             1
A121R0034   QUEEN           ..                                       2
          1   SEE
A131X0034   THIRTY      -   FCUR          THE          QUEEN         1
A131XC034   AND             THE           CROWN        AND           2
A131X0034   THE             ERMINE        ..                         3
          1   SEE
B201X0034   THIRTY      -   FCUR          THERE/S      A             1
B201XC034   QUEEN           .             SHE          HAS           2
B201X0034   THE             CRCWN         ..                         3
          1   SEE
B211SC034   THIRTY      -   FCUR          A            KING          1
B211S0C34   .               A             PRINCE                     11
B211S0034   I               THINK         .            HINTQ         2
B211S0034   .               HIS                                      21
B211SC034   CRCWN           ..                                       3
          1   SEE
B221N0034   CMIS                                                     1
B221N0034   NUMBER          THIRTY    -   FOUR         IS            11
B221N0034   A               QUEEN         WITH         A             2
B221N0034   QUEEN*S         REGALIA       AND          ALL           3
B221N0034   ON              HER           HEAD         ..            4
          1   SEE
B231R0034   THIRTY      -   FCUR          IS           A             1
B231RC034   QUEEN           ..                                       2
          1   SEE
B241N0034   THIRTY      -   FCUR          IS           A             1
B241NC034   QUEEN           WITH          A            CROWN         2
B241NC034   ..                                                       3
          1   SEE
B242N0034   THIRTY      -   FCUR          IS           A             1
B242NC034   QUEEN           WITH          A            CROWN         2
B242NC034   ..                                                       3
          1   SEE
B243N0034   OMIS
B243N0034   NUMBER          THIRTY    -   FOUR         IS            11
B243NC034   A               QUEEN         WITH         A             2
B243N0034   CRCWN           CN            ..                         3
          1   SEE
B244NC034   THIRTY      -   FOUR          IS           A             1
B244NC034   QUEEN           WITH          A            CROWN         2
B244N0034   ..                                                       3
          1   SEE
B251NC034   THIRTY      -   FOUR          IS           A             1
B251NC034   CRCWN           .             THAT/S       A             2
B251NC034   CRCWNED         PERSON        .            MAY           3
B251N0034   BE              A             QUEEN        ..            4
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            1    SEE
B252NC0034   THIRTY     -    FCUR         THE          QUEEN        1
B252NC0034   .               SHE          SEEMS        TO           2
B252N0034    BE              TRCUBLED     TCO          .            3
B252N0034    WITH            THE                                    31
B252N0034    CRCWN           CN           HER          HEAD         4
B252N0034    AND             THE          ERMINE       ..           5
            1    SEE
B261WCC34    THIRTY     -    FCUR         A            QUEEN        1
B261WC0034   ..                                                     2
            1    SEE
B262R0034    THIRTY     -    FCUR         IS           .            1
B262R0034    I/M             GCING        TO           SAY          2
B262R0034    QUEEN           ELIZABETH    ..                        3
            1    SEE
B271S0034    THIRTY     -    FCUR         IS           THE          1
B271S0034    QUEEN           .            A                         11
B271S0034    CROWN           .            HINTQ        .            2
B271SOC34    THAT/S          A            COLLAR       TO           21
B271S0034    HER             RCBE         ..                        3
            1    SEE
B281R0034    THIRTY     -    FCUR         IS           A            1
B281R0034    CROWNED         QUEEN        ..                        2
            1    SEE
B291G0034    THIRTY     -    FCUR         A            QUEEN        1
B291GC034    WITH            CRCWN        AND          SO           2
B291G0034    FORTH           ..                                     3
            1    SEE
B292G0034    OMIS            DCN/T        KNOW                      1
B292G0034    WHAT            THIRTY  -    FOUR         IS           2
B292GC034    ..                                                     3
     C034                    ITEM-END
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			1903		SYN	SYNTAX					
	A5	A4	A3	A2	A1	BASE	C1	C2	C3	C4	C5
A	••••••	NINETEEN	OH	THREE	A	BEAR	AND	A	HORNET*S	NEST	WITH
A	ONE	THOUSAND	NINE	HUNDRED	THREE	BEARS	STEALING	HONEY	FROM	A	BEEHIVE
A	NINETEEN	CH	THREE	IS	A	BEAR	AND	HER	CUB	WHICH	ARE
A	••••••	NINETEEN	CH	THREE	IS	BEARS	AFTER	BEES	THE	MOTHER	BEAR
A	NINETEEN	CH	THREE	IS	A	BEAR	TRYING	TO	GET	SOME	HONEY
A	OH	THREE	IS	A	BIG	BEAR	AND	A	SMALL	BEAR	••••••
A	OH	THREE	IS	AN	OLD	BEAR	INTO	A	WASP*S	NEST	OR
A	••••••	••••••	••••••	••••••	••••••	BEAR	BABY	BEAR	THAT/S	THE	HORNET*S
A	OH	THREE	IS	A	BIG	BEAR	AFTER	THE	HORNET*S	NEST	HORNETS
A	••••••	••••••	••••••	THAT/S	A	BEAR	IT/S	CATCHING	HONEY	IT/S	INTO
A	••••••	••••••	••••••	••••••	A	BEAR	GETTING	HONEY	FROM	THE	BEES
A	••••••	NINETEEN	THREE	IS	A	BEAR	TRYING	TO	GET	SOME	AND
A	••••••	NINETEEN	CH	THREE	A	BEAR	WITH	THE	CUB	ROBBING	THE
A	••••••	••••••	••••••	••••••	PIGS	BEARS	IN	A	BEEHIVE	••••••	••••••
A	••••••	NINETEEN	CH	THREE	TWO	BEARS	ONE	BEAR	TRYING	TO	GET
A	NINETEEN	CH	THREE	IS	THE	BEAR	WITH	HER	CUB	AND	THEY
B	••••••	NINETEEN	CH	THREE	A	BEAR	AND	A	CUB	BEAR	THE
B	••••••	NINETEEN	CH	THREE	SOME	BEARS	ROBBING	A	BEEHIVE	MOTHER	BEAR
B	HUNDRED	AND	THREE	IS	A	BEAR	CLIMBING	UP	HE	THINKS	HE/S
B	••••••	••••••	NINETEEN	OH	THREE	BEAR	ROBBING	HORNET*S	NEST	••••••	••••••
B	••••••	ONE	NINE	CH	THREE	BEARS	STANDING	UNDER	THE	TREE	EATING
B	THREE	IS	A	BIG	TALL	BEAR	AND	A	SMALL	BEAR	AND
B	WE	HAVE	A	COUPLE	OF	BEAR	ONE	OF	THEM	HAS	FOUND
B	NINETEEN	CH	THREE	IS	TWO	BEARS	ONE	OF	THEM	IS	BREAKING
B	NINETEEN	OH	THREE	IS	TWO	BEARS	THE	BIG	BEAR	IS	GOING
B	••••••	NINETEEN	CH	THREE	PAPA	BEAR	AND	A	MAMA	BEAR	GETTING
B	••••••	NINETEEN	OH	THREE	TWO	BEARS	ONE	IS	DISTURBING	THE	BEEHIVE
B	••••••	••••••	••••••	THAT/S	A	BEAR	WITH	A	BEEHIVE	••••••	••••••
B	NINETEEN	CH	THREE	IS	A	BEAR	IN	THE	HONEY	CUB	BEAR
B	NINETEEN	CH	THREE	IS	A	BEAR	TEARING	DOWN	A	HORNET*S	NEST
B	NINETEEN	OH	THREE	IS	TWO	BEARS	ONE	OF	THEM	GETTING	HONEY
B	••••••	NINETEEN	CH	THREE	BIG	BEAR	AND	A	LITTLE	BEAR	LOOKING

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                          0311                    SYN          SYNTAX

  A5          A4          A3          A2          A1          BASE        C1          C2          C3          C4          C5

A ......      ......      ......      THREE       ELEVEN      WOODPECKER  ......      ......      ......      ......      ......
A THREE       HUNDRED     ELEVEN      RED         HEADED      WOODPECKER  ......      ......      ......      ......      ......
A ......      ......      ......      THREE       ELEVEN      WOODPECKER  RED         HEADED      WOODPECKER  ......      ......
A ......      THREE       ELEVEN      IS          A           BIRD        A           WOODPECKER  NOW         ALL         MY
A ELEVEN      IS          A           RED         HEADED      WOODPECKER  ......      ......      ......      ......      ......
A ELEVEN      IS          A           RED         HEADED      WOODPECKER  ......      ......      ......      ......      ......
A HUNDRED     AND         ELEVEN      IS          A           BIRD        ASITTING    ON          A           LOG         AND
A ......      ......      ......      ......      PECKER      WOOD        ......      ......      ......      ......      ......
A ......      THREE       ELEVEN      IS          THE         WOODPECKER  ON          THIS        LIMB        ......      ......
A ......      ......      ......      ......      PECKER      WOOD        ......      ......      ......      ......      ......
A IS          A           RED         HEAD        PECKER      WOOD        ......      ......      ......      ......      ......
A ......      ......      THAT/S      A           PECKER      WOOD        RED         HEADED      BIRD        ......      ......
A IS          A           RED         HEADED      PECKER      WOOD        ......      ......      ......      ......      ......
A ......      ......      THREE       ELEVEN      A           WOODPECKER  ......      ......      ......      ......      ......
A ......      ......      ......      ......      ......      BIRD        ON          A           LIMB        OF          A
A IS          A           RED         HEADED      PECKER      WOOD        ......      ......      ......      ......      ......
A ELEVEN      IS          A           RED         HEADED      WOODPECKER  ......      ......      ......      ......      ......
B THREE       ELEVEN      THAT/S      A           LITTLE      BIRD        A           LITTLE      SAPSUCKER   A           LITTLE
B ......      ......      THREE       ELEVEN      A           WOODPECKER  ......      ......      ......      ......      ......
B IS          A           RED         HEAD        PECKER      WOOD        ......      ......      ......      ......      ......
B ......      THREE       ELEVEN      IS          A           WOODPECKER  RED         WHITE       AND         BLUE        ......
B AND         ELEVEN      RED         HEAD        PECKER      WOOD        ......      ......      ......      ......      ......
B IS          A           RED         HEADED      PECKER      WOOD        ON          A           LIMB        OAK         TREE
B FIVE        ELEVEN      A           RED         HEADED      WOODPECKER  ......      ......      ......      ......      ......
B IS          A           RED         HEADED      PECKER      WOOD        ......      ......      ......      ......      ......
B ......      THREE       ELEVEN      IS          A           BIRD        IT          MUST        BE          A           WOODPECKER
B DON/T       KNOW        MY          BIRDS       BLUEJAY     WOODPECKER  ON          A           LIMB        ......      ......
B ......      ......      THREE       ELEVEN      A           WOODPECKER  ......      ......      ......      ......      ......
B ......      THIS        IS          A           PECKER      WOOD        BIRD        I           BELIEVE     WE          CALL
B ......      THREE       ELEVEN      IS          A           WOODPECKER  ......      ......      ......      ......      ......
B ELEVEN      IS          A           RED         HEAD        BIRD        THAT        PECKS       HOLES       IN          TREES
B IS          A           RED         HEADED      PECKER      WOOD        ON          A           TREE        I           DON/T
B ......      ......      ......      THREE       ELEVEN      WOODPECKER  WITH        RED         HEAD        ON          A
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                          8086                  SYN         SYNTAX

  A5           A4         A3          A2         A1         BASE       C1         C2         C3         C4         C5

A BEING        HELD       UP          BY         THIS       ROBBER     HERE       HE         HAS        A          GUN
A THOUSAND     EIGHT      SIX         HOLDUP     A          ROBBER     IS         EITHER     HOLDING    UP         A
A WITH         THE        FCRCE       CF         A          GUN        AND        FVIDENTLY  THE        MAN        IS
A DURING       THE        NIGHT       THE        GETAWAY    CAR        I          SUP?OSE    JUST       A          HANDKERCHI
A OVER         HIS        FACE        LIKE       A          MASK       WITH       A          PISTOL     POINTED    UP
A EIGHTY       EIGHTY     SIX         IS         A          ROBBER     AT         NIGHT      WHO        IS         HOLDING
A EIGHT        SIX        THERE       IS         A          MAN        HOLDING    ANCTHER    MAN        AND        GOT
A THE          BACK       END         CF         THE        CAR        OH         YES        NEW        MOON       ......
A STARS        AND        I           GUESS      THIS       MAN        IS         HOLDING    THIS       OTHER      MAN
A AGAIN        AND        THE         STARS      A          MAN        WITH       A          MASK       ON         AND
A ONE          UP         HE          HAS        HIS        GUN        THE        CTHER      MAN*S      HAT        HAS
A OF           A          HCLCUP      IT/S       A          MAN        HE         HAS        A          SCARF      AND
A SIX          WE         GCT         A          HOLDUP     MAN        GOT        A          GUN        DRAWED     CN
A TELLS        TC         ME          THAT       THE        ROBBER     IS         THE        DRIVER     AND        OWNER
A ......       ......     ......      ......     ......     ROBBER     ROBBING    A          MAN        BY         MOONLIGHT
A SIX          A          HCLCUP      AT         NIGHT      MAN        WITH       A          MASK       OVER       HIM
A GOT          HIM        CUT         CF         HIS        CAR        AND        HIS        HAT/S      BEEN       KNOCKED
B THERE/S      A          DESPERADC   THAT/S     A          ROBBER     HE/S       GOT        HIS        FACE       MASKED
B HOLDING      THIS       CNE         UP         A          MASK       A          GUN        HE         HAS        HIM
B TO           BE         A           BANDIT     A          ROBBER     THAT       IS         ATTACKING  THE        MAN
B EIGHTY       SIX        BANDIT      HOLDING    UP         MAN        ......     ......     ......     ......     ......
B SIX          A          BANCIT      WITH       A          MASK       AND        PISTOL     HOLDING    UP         A
B A            HOLCUP     SCENE       THE        HOLDUP     MAN        HAS        A          BANDANA    CVER       HALF
B BE           A          KING        CF         HOLDUP     MAN        HAS        GOT        A          MASK       OVER
B AND          IT/S       A           HOLDUP     A          MAN        WITH       A          MASK       AND        HIS
B IS           A          HCLDUP      A          MASKED     MAN        HAS        ANOTHER    MAN        BY         THE
B BRIGHT       AND        THERE       IS         A          CAR        WAITING    FOR        THE        GETAWAY    ......
B EIGHTY       SIX        A           HOLDUP     A          MAN        WITH       A          HANDKERCHIEFOVER      HIS
B ......       AND        HERE/S      THE        HOLDUP    -MAN        HOLDING    UP         THIS       MAN        TRYING
B IS           A          HCLDUP      GOT        A          MAN        HAS        GOT        A          GUN        MASK
B OCCURRED     BACK       CN          THE        HIGHWAY    MAN        WITH       A          MASK       OVER       HIS
B IS           AN         AUTCMOBILE  THERE      A          MAN        HAS        A          MASK       OVER       HIS
B HAVE         GOTTEN     OUT         OF         HIS        CAR        AND        THE        MAN/S      HOLDING    HIM
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			0034		SYN	SYNTAX					
	A5	A4	A3	A2	A1	BASE	C1	C2	C3	C4	C5
A	......	......	......	......	......	QUEEN	CROWN	......	......	......	......
A	......	......	......	THIRTY	FOUR	QUEEN	CROWN	ROBE	......	......	......
A	......	......	THIRTY	FOUR	A	QUEEN	I	PRESUME	THAT/S	THE	CROWN
A	......	THIRTY	FOUR	IS	A	QUEEN	I	SUPPOSE	CROWN	ROBE	......
A	THIRTY	FOUR	LCCKS	LIKE	A	QUEEN	AND	A	CROWN	OR	A
A	......	......	THIRTY	FOUR	A	QUEEN	A	CROWN	......	......	......
A	......	THIRTY	FCUR	IS	A	QUEEN	......	......	......	......	......
A	......	......	CROWN	YES	A	QUEEN	......	......	......	......	......
A	......	......	THIRTY	FOUR	A	QUEEN	......	......	......	......	......
A	......	......	......	......	......	QUEEN	......	......	......	......	......
A	......	......	THIRTY	FOUR	A	QUEEN	......	......	......	......	......
A	......	......	......	......	A	QUEEN	WITH	HER	BAND	......	......
A	THIRTY	FOUR	MUST	BE	THE	QUEEN	......	......	......	......	......
A	......	......	......	THIRTY	FOUR	QUEEN	......	......	......	......	......
A	......	THIRTY	FOUR	IS	A	QUEEN	......	......	......	......	......
A	......	......	THIRTY	FOUR	THE	QUEEN	AND	THE	CROWN	AND	THE
B	......	THIRTY	FCUR	THERE/S	A	QUEEN	SHE	HAS	THE	CROWN	......
B	NUMBER	THIRTY	FCUR	IS	A	QUEEN	WITH	A	QUEEN*S	REGALIA	AND
B	......	THIRTY	FCUR	IS	A	QUEEN	......	......	......	......	......
B	......	THIRTY	FCUR	IS	A	QUEEN	WITH	A	CROWN	......	......
B	......	THIRTY	FOUR	IS	A	QUEEN	WITH	A	CROWN	......	......
B	NUMBER	THIRTY	FOUR	IS	A	QUEEN	WITH	A	CROWN	ON	......
B	......	THIRTY	FOUR	IS	A	QUEEN	WITH	A	CROWN	......	......
B	CROWNED	PERSCN	MAY	BE	A	QUEEN	......	......	......	......	......
B	......	......	THIRTY	FOUR	THE	QUEEN	SHE	SEEMS	TO	BE	TROUBLED
B	......	......	THIRTY	FOUR	A	QUEEN	......	......	......	......	......
B	IS	I/M	GOING	TO	SAY	QUEEN	ELIZABETH	......	......	......	......
B	......	THIRTY	FOUR	IS	THE	QUEEN	A	CROWN	THAT/S	A	COLLAR
B	THIRTY	FOUR	IS	A	CROWNED	QUEEN	......	......	......	......	......
B	......	......	THIRTY	FOUR	A	QUEEN	WITH	CROWN	AND	SO	FURTH

```
                                                 CODE - T     (CONTD)
                                                 REF. PAGE 11
            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
 A'S     1  50.0     4  40.0     1  25.0     2  33.4     9  50.0     1  50.0     6  50.0     2  40.0     2  66.7     1  33.4
 B'S     1  50.0     6  60.0     3  75.0     4  66.6     9  50.0     1  50.0     6  50.0     3  60.0     1  33.3     2  66.6
 TOT     2          10           4           6          18           2          12           5           3           3


                                                 CCDE - Q
                                                 REF. PAGE 11
        2(A) -  3    6(A) -  3    7(A) -  3    9(A) -  1    11(A) -  1    13(A) -  1    16(A) -  1    21(B) -  2
       22(B) -  1   23(B) -  1   26(B) -  1   28(B) -  2

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
 A'S     5  62.5     3  60.0     2 100.0          .0          .0          .0     2  66.7          .0     1 100.0          .0
 B'S     3  37.5     2  40.0          .0          .0          .0          .0     1  33.3          .0          .0     1 100.0
 TOT     8           5           2                                               3                       1           1


                                                 CODE - C-Q
                                                 REF. PAGE 11
        2(A) -  1

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
 A'S          .0          .0          .0          .0          .0          .0     1 100.0          .0          .0          .0
 B'S          .0          .0          .0          .0          .0          .0          .0          .0          .0          .0
 TOT                                                                             1


                                                 CODE - C
                                                 REF. PAGE 11
        3(A) -  1    7(A) -  1    9(A) -  1    10(A) -  2    12(A) -  1    14(A) -  1    17(A) -  1    22(B) -  1
       25(B) -  2   27(B) -  1   29(B) -  1    33(B) -  1

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
 A'S          .0     2  50.0          .0          .0          .0     2  50.0          .0          .0     2  66.7     2 100.0
 B'S     1 100.0     2  50.0          .0          .0          .0     2  50.0          .0          .0     1  33.3          .0
 TOT     1           4                                               4                                   3           2


                                                 CODE - O-V-D
                                                 REF. PAGE 11
        5(A) -  1

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
 A'S          .0          .0          .0     1 100.0          .0          .0          .0          .0          .0          .0
 B'S          .0          .0          .0          .0          .0          .0          .0          .0          .0          .0
 TOT                                         1
```

```
                                                   CODE - O
                                                   REF. PAGE 11
         1(A) -  2      2(A) -  1      3(A) -  2      4(A) -  1      5(A) -  3      6(A) -  1      8(A) -  1     10(A) -  2
        11(A) -  1     12(A) -  1     13(A) -  1     14(A) -  1     15(A) -  1     16(A) -  3     17(A) -  2     19(B) -  1
        20(B) -  1     21(B) -  1     22(B) -  2     23(B) -  1     24(B) -  2     25(B) -  1     26(B) -  1     27(B) -  1
        28(B) -  2     29(B) -  1     31(B) -  3     32(B) -  1     33(B) -  2

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
A'S     4  80.0     2 100.0     2  50.0     5  55.6          .0     4  57.2          .0          .0     4  40.0     2  66.7
B'S     1  20.0          .0     2  50.0     4  44.4     1 100.0     3  42.8     2 100.0          .0     6  60.0     1  33.3
TOT     5           2           4           9           1           7           2                   10           3


                                                   CODE - P
                                                   REF. PAGE 11
         1(A) -  2      4(A) -  1      5(A) -  1      9(A) -  3     11(A) -  2     12(A) -  1     13(A) -  1     14(A) -  1
        16(A) -  1     17(A) -  3     18(B) -  1     19(B) -  3     25(B) -  1     28(B) -  1     29(B) -  1     31(B) -  1
        32(B) -  1     33(B) -  2

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
A'S          .0     3  75.0     3 100.0          .0     4  80.0     2 100.0     2 100.0     1  25.0          .0     1  14.3
B'S          .0     1  25.0          .0          .0     1  20.0          .0          .0     3  75.0          .0     6  85.7
TOT                 4           3                       5           2           2           4                       7


                                                   CODE - D
                                                   REF. PAGE 11
         1(A) -  1      4(A) -  1     10(A) -  1

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
A'S     1 100.0          .0          .0          .0          .0     1 100.0          .0     1 100.0          .0          .0
B'S          .0          .0          .0          .0          .0          .0          .0          .0          .0          .0
TOT     1                                                           1                       1


                                                   CODE - X
                                                   REF. PAGE 11
         1(A) -  1      2(A) -  1      3(A) -  1      6(A) -  2      7(A) -  1      9(A) -  1     11(A) -  2     12(A) -  1
        14(A) -  1     17(A) -  1     19(B) -  1     20(B) -  2     23(B) -  1     24(B) -  2     26(B) -  2     27(B) -  1
        30(B) -  2     32(B) -  2     33(B) -  1

            A5          A4          A3          A2          A1          C1          C2          C3          C4          C5
A'S          .0          .0          .0     3  75.0          .0     3  37.5     1  50.0     1 100.0     2  66.7     2 100.0
B'S     5 100.0     1 100.0          .0     1  25.0          .0     5  62.5     1  50.0          .0     1  33.3          .0
TOT     5           1                       4                       8           2           1           3           2


                                                   CODE - T
                                                   REF. PAGE 11
         1(A) -  1      2(A) -  2      3(A) -  3      4(A) -  3      5(A) -  2      6(A) -  1      7(A) -  1      8(A) -  2
        10(A) -  3     11(A) -  1     12(A) -  3     13(A) -  2     14(A) -  2     15(A) -  1     16(A) -  2     18(B) -  2
        19(B) -  2     20(B) -  3     22(B) -  3     23(B) -  3     24(B) -  2     25(B) -  3     26(B) -  3     27(B) -  2
        28(B) -  3     29(B) -  1     30(B) -  3     31(B) -  2     32(B) -  3     33(B) -  1
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                                          CODE - R
                                          REF. PAGE 11
          6(A) -  1

              A5        A4        A3        A2        A1        C1        C2        C3        C4        C5
 A'S          .0        .0        .0        .0        .0        .0        .0    1 100.0       .0        .0
 B'S          .0        .0        .0        .0        .0        .0        .0        .0        .0        .0
 TOT                                                                            1


                                          CODE - P-O
                                          REF. PAGE 11
          7(A) -  1     27(B) -  1     32(B) -  1

              A5        A4        A3        A2        A1        C1        C2        C3        C4        C5
 A'S          .0        .0    1  50.0       .0        .0        .0        .0        .0        .0        .0
 B'S          .0        .0    1  50.0   1 100.0       .0        .0        .0        .0        .0        .0
 TOT                          2         1


                                          CODE - O-N
                                          REF. PAGE 11
          8(A) -  1     31(B) -  1

              A5        A4        A3        A2        A1        C1        C2        C3        C4        C5
 A'S          .0    1  5C.0       .0        .0        .0        .0        .0        .0        .0        .0
 B'S          .0    1  5C.0       .0        .0        .0        .0        .0        .0        .0        .0
 TCT                2


                                          CODE - P-G
                                          REF. PAGE 11
          11(A) -  1    19(B) -  1

              A5        A4        A3        A2        A1        C1        C2        C3        C4        C5
 A'S      1 10C.0       .0        .0        .0        .0        .0        .0        .0        .0        .0
 B'S          .0        .0    1 100.0       .0        .0        .0        .0        .0        .0        .0
 TOT      1                   1


                                          CODE - P-R
                                          REF. PAGE 11
          14(A) -  1    20(B) -  1

              A5        A4        A3        A2        A1        C1        C2        C3        C4        C5
 A'S          .0        .0        .0    1 100.0       .0        .0        .0        .0        .0        .0
 B'S          .0        .0        .0        .0        .0    1 100.0       .0        .0        .0        .0
 TOT                                    1                   1
```

```
A121R0112   THAT             A              LEOPARD         **              2

B2C1X0112   ONE          -   TWELVE         THAT/S          TOO             1
B2C1X0112   BIG              FOR            A               HOUSE       -   2
B2C1X0112   CAT              *              IT              WOULD           3
B2C1X0112   BE               TOO            LARGE           FOR             4
B2C1X0112   A                HOUSE      -   CAT             SO              41
B2C1X0112   I                GUESS          THAT/S          A               5
B2C1X0112   WILD         -   CAT            **                              6

B241N0112   HUNDRED      -   AND        -   TWELVE          IS              1
B241N0112   A                ZEBRA          **                              2

A082G0179                    MAN            WITH            HIS             1
A082G0179   *                IS             THAT            A               11
A082G0179   PISTCL           *              AND             A               2
A082G0179   PISTCL           IN             HIS             HAND            21
A082G0179   **                                                              3

B243N0179   ONIS                                                            1
B243N0179   NUMBER           ONE        -   SEVENTY     -   NINE            11
B243N0179   SEEMS            TO             BE              A               2
B243N0179   OLD              TIME           HIGHWAY     -                   30
B243N0179   PATRCLPAN        AND            HE/S            HOLLERING       40
B243N0179   STCP             **                                             51

B211S0225   TWO          -   TWENTY     -   FIVE            THAT/S          1
B211S0225   JUST             FLOWERS                                        11
B211S0225   *                HINTQ          *               LILIES          2
B211S0225   **                                                              3

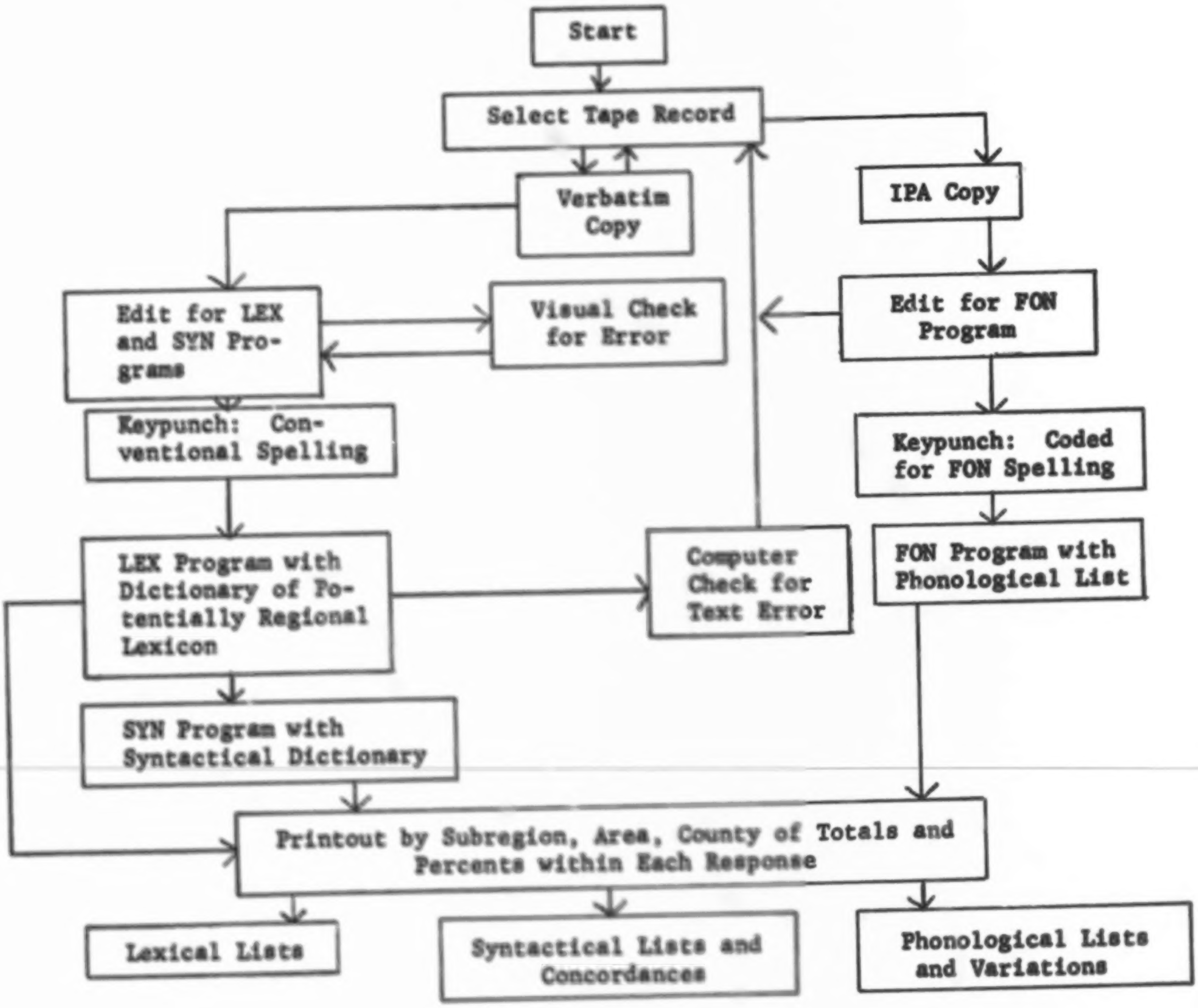
B231R0225   TWO          -   TWENTY     -   FIVE            LOOKS           1
B231R0225   TO                ME             AS              IF             2
B231R0225   IT/S              A              FLOWER          WHAT           3
B231R0225   I                 CALL           A               HYACINTH       4
B231R0225   I                 WOULDN/T       SAY             WHETHER        5
B231R0225   THAT/S            RIGHT         OR              WRONG           6
B231R0225   **                                                              7

B243N0225   TWC          -   TWENTY     -   SIX             MY              1
B243N0225   EYE/S            NOT            GOOD            ENOUGH          2
B243N0225   TO               TELL           ME              WHAT            3
B243N0225   THIS             IS             **                              4

B251N0225   TWC          -   TWENTY     -   FIVE            IS              1
B251N0225   A                GLADICLA       **                              2

B252N0225   TWO          -   TWENTY     -   FIVE            TWO             1
B252N0225   IRISES           **                                             2
```

PROJECT #3046 FLOW CHART


Start
Select Tape Record
Verbatim Copy
IPA Copy
Edit for LEX and SYN Programs
Visual Check for Error
Edit for FON Program
Keypunch: Conventional Spelling
Keypunch: Coded for FON Spelling
LEX Program with Dictionary of Potentially Regional Lexicon
Computer Check for Text Error
FON Program with Phonological List
SYN Program with Syntactical Dictionary
Printout by Subregion, Area, County of Totals and Percents within Each Response
Lexical Lists
Syntactical Lists and Concordances
Phonological Lists and Variations

LETTER CODES

IPA	Code	IPA	Code
i	I	d	D
ɪ	I*	p	P
e	E	b	B
ɛ	E*	t	T
a	A	k	K
æ	A*	g	G
o	O	f	F
ɔ	O*	v	V
ə	8	θ	Q
ʌ	X	ð	D*
		s	S
		z	Z
		ʃ	S*
		ʒ	Z*
		h	H
		tʃ	C*
		d3	J*
		m	M
		n	N
		ŋ	N*
		l	L
		w	W
		hw	H*
		j	Y
		r	R

CARD FORMAT

Field	Columns	Function
1	1-3	Code for area and locality
	4	Person Code
	5-8	Picture identification number
2	9-12	Program instruction code
3, 4, 5, 6	13-24, 29-40, 45-56, 61-72	Text word fields, maximum word length 12 characters
7	77-80	Card sequence number

SPECIAL ENTRIES

LEX	Begin lexicon program
SYN	Begin grammar and syntax program
FON	Begin phonology program
ITEM-END	End of data for item as numbered
HINTQ	Interviewer gave interviewed a hint in the form of a question
HINTW	Interviewer named the word being sought
/	Apostrophe equivalent in verbs
*	Apostrophe equivalent in nouns
.	Single period to prevent misreading
..	Double period to show end of a speaker's complete statement

PROGRAMS

LEX & FON	Fortran II
SYN	Autocoder

COMPUTERS USED

IBM 1401, 1620 and supporting equipment

DATA RECORD

Card decks
Summaries and lists (examples in Appendix B)

ERRATA

Page	In place of	Read
8	since, punctuation	punched, since punctuation
9	10. P. Stockwell	10. Robert P. Stockwell
13	the test printed by	the text printed by
14	Revolution ;	Revolution .
17	the word in question	one of the words in question
19	and *twelve*	*and* *twelve*
21	vocabulary had a common	vocabulary has a common
28	The /i/ in checked vowel	The /i/ in the checked vowel
34	assum that	assume that
37	Qr, to take	Or , to take
40	*queen* the ration is	*queen* the ratio is
42	*going*, *eating* *getting* ,	*going* , *eating* , *getting* ,
50	James M.	Joseph M.

BR-5-0909
PA-24

SUB-REGIONAL SPEECH VARIATIONS IN VOCABULARY GRAMMAR AND PRONUNCIATION

Gordon Reid Wood

Southern Illinois University, Edwardsville, Illinois

Summary: Cooperative Research Project No. 3046

May 1966 to September 1967

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3

SUB-REGIONAL SPEECH VARIATIONS IN VOCABULARY GRAMMAR AND PRONUNCIATION

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Southern Illinois University, Edwardsville, Illinois

Summary: Cooperative Research Project No. 3046

May 1966 to September 1967

BACKGROUND

Selected American English spoken words and phrases were prepared for computer analysis according to lexical, phonological, and syntactical criteria in order to establish their prevalence and distribution in a subregion of the southern United States. Lists, tabulations, and maps were produced in conjunction with a discussion of variation in natural language systems.

The importance of the problem to the field of education is that it adds specific evidence to the growing body of knowledge about American English as a language with three major spoken dialects, Northern, Midland, and Southern. As a statement of dissemination and gradience in three aspects of a language, it contributes to other evidence of the actualities in current English lexical, phonological, and grammatical usage. Finally, as a discussion of language analysis, it calls attention to opportunities and problems arising in computational linguistics when the object of study is a spoken language. As a presentation of phonological, semantic analyses it contributes to current discussions of spoken sentences in studies of natural language by means of computational linguistics.

OBJECTIVES

The main objective is to make a computer analysis of elements of the English vocabulary, pronunciation, and sentence structure found in tape recorded speech of a sub-region. The data analyzed is a body of responses obtained in 1959 and 60 from 33 native informants from 23 counties in Tennessee, Georgia, Mississippi, and Alabama.

The main objective is subdivided into these parts:

1. What sentence responses occur in each county surveyed?
2. In these sentences what lexical and phonological systems have their counterparts in the regional systems reported for the Atlantic states?
3. What other items of lexical and phonological nature have distributions similar to those above?
4. What elements of a grammatical-syntactical subsystem can be identified by computer techniques?
5. From the resulting tabulations, what can we conclude about the stability and variation of the observed features of spoken English in the sub-region?

PROCEDURE

Steps leading to the present research need comment. In 1959 and 60 Wood selected persons from counties in Tennessee, Mississippi, Georgia, and Alabama who seemed to meet the established criteria for accepted linguistic informants. Those chosen were Caucasian, native born, ranging in age from 20 to over 60 years, male and female, and with formal education ranging from the early grades to post graduate study; no informant came from the uncultivated, rustic class (Group 1 of the Linguistic Atlas classification). Each person was asked to make a tape record of his responses to numbered pictures as the interviewer showed them to him. The pictures are those in Sapon's A Pictorial Linguistic Interview Manual (1957), augmented by Wood (1959); the instructions direct the informant to call the number of each picture and then, depending on the particular set, to give the name of a thing, comment on activities, or discuss the total situation depicted.

From the total collection 33 best tapes were selected and transcribed verbatim into regular English sentences. Shortened forms like "gonna" were expanded to "going to" contractions and possessives were punctuated as such, and normal conventions of spelling, capitalization, and punctuation were followed. (A phonetic transcription of selected words was made later.) Plans for computer analysis were also drawn up. The text would be punched on cards which would be handled by programs written in FORTRAN; later AUTOCODER also was used. The data cards would have fields for the informant's county and locality, age and education, for the number of each picture, for four successive text words of no more than 12 characters each, and for sequence numbers applying to successive cards from the same informant's sentences.

The project research summarized here began with preparing data forms from the transcribed texts, the punching and correcting of data cards, and the running and redesign of the LEX (lexical) program. Charles L. Finke, a staff member of the Data Processing Center, Southern Illinois University, Edwardsville, designed, edited, and supervised the running of the lexical, phonological, and syntactical programs in conference with the chief investigator.

The preliminary text was altered in these ways for transcription and for punching on cards. (1) Lexical words were joined by a hyphen as in "two-hundred-and-three". (2) HINTW and HINTQ replaced all comments by the interviewer; when the interviewer had suggested a word, W was the signal added to HINT· when the hint was a question, Q was added. (3) Punctuation was reduced to a single period to prevent misreading the text of any printout, to a double period used as a signal to the computer that a given speaker had ended his comments, and to a slash and an asterisk, the first replacing an apostrophe in a contracted verb form, the second replacing it in a possessive noun form. No punctuation mark is intended to reflect phonological actuality in the taped text.

After the text of the data forms and the resulting cards had been compared with the original tape records, the LEX program was run as a final means of identifying card error. If error appeared, the faulty card was compared with the tape and corrected. If the text was satisfactory, then it was ready for the final run of both LEX and SYN (syntax) programs.

The LEX program searched the sentences for designated lexical words, identified them and tagged them according to person and county, listed and tabulated their occurrence, and prepared totals and percentages of occurrence in the northern and southern halves of this subregion, Area A and Area B respectively.

The decks of data cards were then sent through the SYN (grammar and syntax) program which selected the same general word that had been used in the LEX tabulations, placed it in a concordance format with the five adjacent words from each side of it in the sentence, and compared the entire eleven words with a stored dictionary of grammatically labeled entries from Lyle V. Jones and Joseph M. Wepman's A Spoken Word Count (1966). The county and area tabulations of grammatical form by sentence position are given in detail later in this summary. It is sufficient to note here that a syntactical word could be a part of a lexical word; "worm", for instance,would be the syntactical base word in a body of sentences which contained the lexical words "fishing-worm", "red-worm", "catalpa-worm", and "worm."

The text for the FON (phonological) program differed from that of the other two in this respect: it represented a phonetic transcription of the specific words which were being tabulated above and of some other words which had sounds not found in the lexical entries. The first transcription from the tapes was a narrow one which employed the symbols of the International Phonetic Alphabet. These symbols were then equated with the upper case characters of the computer print chain; when there was no corresponding letter, modifications were made by adding a star or by substituting a numeral. For simplicity in programming the narrow original transcription was replaced by a broad one when the words were put on data forms for card punching.

The FON program selected specific vowel, dipthong, and consonant symbols from the coded words, classified them according to the grid pattern in Hans Kurath and Raven I. McDavid, Jr., The Pronunciation of English in the Atlantic States (1961), tabulated the responses by county and area, and prepared totals and percentages similar to those in the other two programs.

From these computer tabulations thirteen composite tables and nine maps were prepared. The tables show county by county the distribution of a list of words, a list of stressed vowels and dipthongs in their individual phonological settings, and a summary of grammatical variables according to sentence position. The maps show areas of greatest density for selected features from the tables themselves and provide a means for the reader to map additional details for himself.

RESULTS AND CONCLUSIONS

1. The first general product of the computer study is a deck of data cards for the FON program and for the LEX-SYN programs. From the latter is derived a sentence by sentence printout, a localized listing of sentences containing 15,600 text words in all.

2.1. From the total running text the LEX program identified these words and their synonyms for county by county tabulation: "stove", "towels", "queen", "fly swatter", "door", "beard", "bone", "tiger", "cross", "faucet", "automobile", "turtle", "iris", "woodpecker", "grasshopper", "dragon fly", "wrench", "wrestling", "june bug", "lightning bug", "nest", "barbed wire fence", "worm", "hog", "bear", "salt and pepper shakers", and "boy". To these are added the variant names of the numbers 108, 112, 118, 135, 196, 213, 225, 311, 433, 464, 466, 570, 587, 680, 699, 851, 945, 1792, 1903, 4203, 6055, 8086.

That the lexical choice is noun (or nominal) centered is inevitable in a study that elicits its responses from pictures and seeks to compare those responses county by county.

2.2. Using words that have a known regional distribution outside the sub-region under study, we established that a few words of Ohio and Pennsylvania origin occur in counties along the Tennessee River, e.g. "wood rack", "fire fly", "fishing worm", and "zig zag fence"; and that another small body of words of Southern origin occur mainly in southeastern Alabama. "Mosquito hawk" (for dragon fly) is in Crenshaw and

Houston counties "earthworm", "eel worm" and "catalpa worm" are in the counties immediately adjacent; "gopher" (for land turtle) and "wood bench" (for a saw horse) are in the same counties. The most widespread regional words are from Midland and South Midland origins: for "rail fence" 10 instances are reported from Area A (the counties along the Tennessee River) and 11 for Area B (the counties of central and south Alabama). For "peckerwood" (a variant of woodpecker), there are 8 and 7 instances in the same respective areas· for "red worm" 14 and 4; for "snake feeder" and "snake doctor' (synonyms of dragon fly) there are 5 and 0, and 6 and 4 respectively; for "faucet" 12 and 8 and for its synonym, "spigot", 3 and 4.

2.3. The conclusion from this evedence is that Midland has the greatest dissemination in the sub-region and that Southern is only slightly represented. In terms of areas of concentration, the Midland follows the Tennessee and extends southward into most counties. Its presence is considerable in Montgomery county, one of the counties from which Southern features have been reported. In this present dissemination, Midland regional lexicon seems to be favored over Southern.

2.4. In calling numbers above 100, speakers have these preferences when the number lies between 100 and 199, they usually omit "one" and reduce "and" to /n/. When it lies between 200 and 999, they call it as a set of two numbers without a connection "and". Specific instances will make this and lesser practices clear: the usual lexical names of 112 and 311 are "hundred and twelve" and "three eleven"; rarer are "one hundred and twelve", "three hundred and eleven": almost unique are strings like "three one two". Numbers containing a zero: "three oh seven" for 307. When the number exceeds 1,000, speakers regularly reduce the number to smaller units and name these units: 6055, for example, is "sixty fifty five".

2.5. Density patterns show that the numeral vocabulary has certain geographic distributions in common with identifiable regional words already mapped. Number strings like "three eleven" have their densities in counties which report a comparable density of Midland words such as "red worm". Similarly the "and" reduced to /n/ has one of its concentrations in the southeastern counties of Alabama which do not correspond to those of the identified regional lexicon, a matter which is common in linguistic geography of more stable dialect areas in North America.

2.6. Gradation in choice of lexicon and in the geographic distribution of that choice has been influenced by a variety of things. The Americanism "rail fence" and its synonyms was disseminated by the westward advance of English speaking settlements after the Revolution. With the advent of industrialization, commercial names go everywhere with the product; the introduction of barbed wire produces the expected "barbed wire fence". If a manufactured thing goes out of use, the accompanying lexicon may become obsolescent; "ice tongs" and "ice hooks" have disappeared along with the ice man who formerly carried blocks of ice into the home.

2.7. The lexical system in this sub-region is marked by gradation in the occurrence of nouns and nominal constructions. Geographically the range is from words reported by most speakers in all counties to that of a single county report by one speaker. Axes of similarity in word choice link Area A with Area B, indicating a dissemination of Midland vocabulary into a Southern region, the main direction of linguistic drift; and a less dynamic intrusion of Southern words and words of similar distribution into the Midland region. While the lexicon is generally stable within this sub-region, there is evidence of obsolence and innovation, influenced by national commercial practice and other current changes in the environment.

3.1. From the phonologically coded text , the FON grogram examined stressed vowels and diphthongs of these words: "cream", "three","moon", "two", "chicken", "pig", "pistol", "sixty", "spigot", "boy", "bench", "fence", "nest", "red -", "headed", "twelve", "terrapin", "wrench", "bandit", "dragon", "handkerchief", "man", "mask", "rack", "eight", "eighty", "rail", "skates", "snake", "foot", "wood", "cone", "hog", "faucet", "catalpa", "hawk", "automobile", "fly", "ice", "lightning", "flower", "towels", "nose", "stove", "bug", "cub", "gun", "wasp", "salt", "saw", "ear", "beard", "mirror", "feeder", "bear", "-pecker-", "pepper", "shaker", "forty", "horse", "four", "turkey", "turtle", "worm", "roller", "robber", "water", "doctor", "barb(ed)", "arm", "stars", "car", "pliers", "wire".

3.2. The FON program searched the text for designated code symbols,sorted them, listed the results by county according to the grid concept in Kurath and Mc David's presentation of vowels and dipthongs of the Atlantic states (1961), and gave totals and percentages for areas A and B. Major sorting placed the results in one of three groups: Option 1,those stressed vowels equivalent to the vowel of one in the list "three", "six", "ear", "ten", "care", "thirty", "bag", "barn", and "college". Option 2, those equivalent to the stressed vowel in "two", "wood", "road", "door", "sun", "frost", and "forty". Option 3, originally restricted to the diphtongs in "five", "down", and "boy", but later expanded to include any variable which needed to be recorded in a form similar to one already tabulated in Option 1 or 2. If the /e/ of "fence" had been recorded in Option 1, then some examination of its recurrence in "rail fence" and "barbed wire fence" was appropriate; Option 3 took care of the problem of counting without causing the computer to report that a maximum of 33 responses had been exceeded. In addition, the FON program listed any words which had been coded but which had not been examined for vowel or diphthong content during that run.

3.3. From the tables, we deduced that the stressed vowel of "cream" and "feeder", that of "chicken", "pig", "pistol", "sixty", and "spigot", that of "moon and "two", and the diphthong of "boy" are uniform in their pronunciation in all counties of the region.

3.4. Variables occur in all other vowels and diphthongs studied. These variables include the presence of several vowels for the same word: "Wrench", for example, has the vowels of "ten", "tan", or "tin". Variables also include the expansion of a vowel into a diphthong and, conversely, The reduction of diphthongs to monophthongs: "Red" by itself develops a fronting diphthong, coded REI*D. The fully articulated diphthong in "fly" or "ice" is so reduced that it resembles the /a/ of "pod". In the coding it is treated as a monophthong so that we have tabulations of the variants FLAI* and FLA, FLA*.

3.5. Variables also occur in some of the consonants. The only one to be considered since it is popularly considered a true sign of Southern pronunciation is the 'loss' of postvocalic /r/. The 'lost' /r/ was coded as an obscure schwa sound, shown as 8: the 'present' /r/ was coded by the letter itself. "Wire", for instance, was WA8 and WAI*R.

3.6. In the Atlantic states phonological variations that Kurath and McDavid treat as "same sound" are of great diversity. It is thus harder to delimit phonological dialects than it is lexical ones. In the counties which we examined, the problem is greater since the subregion has not maintained the kinds of separated patterns of the seaboard; rather, the patterns of the interior are mixed.

3.7. Granting the more nebulous nature of the distinctions between regional pronunciations, we can still draw some conclusions with regard to the interior if we follow the procedure of mapping the density pattern. "Bench" and reduced diphthong variants of words in /ai/ and /au/ have a common dinsity in Jackson, Marshall, and Talladega counties. Variations back and forth between the vowel sounds of "calm" and "daughter" found in "wasp", "faucet", "barb(ed)", "arm", "stars", "car", "forty", "horse", "catalpa", "hawk", "saw", "salt", and "hog" have their concentrations in Bradley, Hamilton, Lawrence, St. Clair, Bullock, and Marengo counties. The concentrations of postvocalic /r/ as both 'present' and 'lost' in the same word appears in

Bradley, Hamiltion, Jackson, Marshall, Lawrence, Macon, Bullock, Montgomery, and Crenshaw counties. A composite of composites places the centers of all these concentrations in Lawrence, Bullock, and Marengo.

3.8. The tabulations do not indicate that there are new sounds in the way that there are new words. Phonological innovation, rather, is the slow replacement of one sound by another by subsitiution, reduction, or expansion (lengthening into a diphthong). If one assumes that the phonological dissemination parallels the dominant Midland dissemination of lexical features, then the reduced form of "fly" will replace the diphthong variant the actual postvocalic /r/ will replace the 'lost' one, and the stressed vowel of "daughter" will gain over the competing vowel of "calm". This oversimplified statement of possible developments ignores such things as the influence of schools, of the national dialects as heard on television and radio, and of the apparent prestige of pronunciations such as the 'lost' /r/ which is carefully acquired by social climbers.

3.9. In terms of patterns of geographic distribution, the axes of phonological similarity between counties correspond generally to those lexical similarity. The ranges of diversity within counties are equally great, gradations which extend from a single instance in one or two counties to sub-regional identity of vowel or diphthong sound. The present range is sufficient to handle the pronunciation of any new words which the lexicon introduces.

4.1. From the conventionally spelled text which provided evidence of the lexicon the SYN program reconstituted specific segments of sentences to be placed in slots in a slot and filler grammar. The program first searched for a designated part of the already tabulated lexical word; thus, it sought "bug" in the lexical "lightning-bug". Using that word as a base it placed preceding and succeeding text words in their sentence order on either side of the base. If it encountered editorial signs such as periods and hyphens, or instructional words such as HINT, OMIS, or SEE, it deleted them and replaced them by the next text word. If no word appeared, it filled the slot with six periods.

4.2. The first part of the printout of the SYN program is a localized text which can be examined for points of similarity. If we begin with those simple responses which say the number and the name of a depicted object, we get short sentences of subject, verb (optional), complement order in a format which places the most remote antecedent influence on sentence structure in position A 5. A part of the printout looks like this:

A5	A4	A3	A2	A1	base
four	thirty	three	is	a	grasshopper
hundred	and	thirty	three	a	grasshopper
......	......	four	thirty	three	grasshopper

4.3. Responses which make a fuller comment give rise to words in the complementary position following the base word. If we consider this reconstituted part of the response only, we find the sequence:

base	C1	C2	C3	C2
bear	and	her	cub	which
bear	after	bees	the (new sentence)	bear
bear	with	the	cub	robbing
bear	in	a	beehive	......
bear	with	her	cub	and (new sentence)

4.4. The second printout of the SYN program is a county by county tabulation of the positional frequency of selected parts of speech as they occur in slots A5 through A1 and C1 through C5, with area subtotals and regional totals for quantifiers, determiners, auxiliaries, conjunctions, prepositions, pronouns, relatives, and adverbs.

4.5. In syntactical terms we can say that one contrasting pattern can be mapped, the two word sequence "two thirteen" as contrasted with the four word sequence "two hundred and thirteen". Obviously this syntactical distribution is identical with the mapped lexical distribution which has already been noted.

4.6. For short sentences, the preferred determiner is "a" , sometimes exceeding a ratio of 20 to 1 in relation to "the". Second, the customary verb following a number is "is". Third, the quantifier "some" regularly occurs in two settings: "some kind of bug" and "bug of some kind". And fourth, two grammatical elements have been combined into one function in the instance of the conjunction "and" and the preposition "with": "queen and a crown" and "queen with a crown"; the function is coordination.

4.7 Longer original statements permit other constructions such as those "-ing" in the complement slots: "bear stealing honey", "trying to get". In the longest statements we find the greatest variety: quasi-passive constructions in "-ed", "with a pistol pointed"; parallel noun and verb phrasings of the same information, "with a mask over his face" and "has a mask over his face"; and variant functions for recently constructed words. "Hold" plus "up" for example, is the source of an Americanism "to hold up" in the sense of robbing (verb, 1851, no usage label), a "holdup" (noun, 1878, slang, colloquial, or informal labels), and "a holdup man" (adjective slot, no date, no comment in unabridged dictionaries).

4.8 If we turn to the tabulated summaries by position, articles most often occupy slots A2 and A1 (100 or more examples), and next most often slot C2 as an indication that a second noun is to follow. Quantifiers ("all", "half", "least", and the like) occur with about equal regularity in slots A5 through A2. Auxiliaries ("is", "can", "must") exceed 100 instances in A2. Conjunctions, prepositions, pronouns, adverbs, and relatives occur less often. Conjunctions commonly occur in slot C1 as do prepositions; pronouns occupy slots C1, 2 and 3. The maximum occurence of adverbs barely exceeds five instances in C2 and C4; the maximum for relatives is 4 in C1, 2, or 4.

The high count for quantifiers and for auxiliaries arises from the interview procedures which require the informants to call the number and then make some remark about the contents of the picture. The outcome is a considerable body of statements according to the pattern " Ten is a ..."

4.9. One question remains unanswered: From the tabulations do we obtain an indication that syntactical sequence in Area A differs from that in Area B? If we examine the total, for instance of quantifiers, we find in slot A4 a difference of 30 in favor of Area B; in slot A2 the difference is 20 in favor of Area A. Yet no other grammatical units of those tabulated shows a comparable difference according to area and slot. In short, there is no other grammatical evidnnce to support a contention that the areas have a countable difference in preferred syntactical sequences.

5 To bring the results of the three programs together, we can conclude that the computer has served as an impersonal gatherer,

arranger , and tabulator of transcribed linguistic data which originated in tape recordings. The resulting tabulations provide us with a model of a part of the total linguistic performance. From the geographic distribution of individual elements of that model we deduce that within the Tennessee-Alabama sub-region are uniformities of lexicon, phonology, and syntax that occured throughout the counties studied. Parallel to these uniformities are gradations in lexicon, phonology, and syntax which can be mapped. Those of lexicon are most readily identified and accounted for in terms of settlement history and later changes in the total environment; in historical terms, the important lexical features arise in the Midland and South Midland speech areas of the Atlantic states; in terms of current change, the new lexical distributions are influenced by commerical activities on a national scale. Phonological and syntactical change are less evident, though gradation in variant forms is observable. The phonological aspect can be linked with the phonology of the Atlantic states with a conclusion that the Midland features are expanding in this sub-region at the expense of Southern ones. Except by inference, Syntax cannot be extended beyond the sub-region since no comparable study of spoken syntactical patterns is available for the speech of the Atlantic states.

Additional inquiry is indicated whether we are concerned with the linguistic model, with any one of the linguistic elements by itself, with the interaction of lexicon, phonology, and syntax on each other, with the application of language data to various concepts of public instruction, or with the theory and practice of computational linguistics.

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